DOCUMENT RESUME

ED 266 303 CE 043 608

AUTHOR Asche, F. Marion
TITLE Planning for Secondary Vocational Education in Georgia.
INSTITUTION Georgia Univ., Athens.
SPONS AGENCY Georgia State Dept. of Education, Atlanta. Office of Vocational Education.
PUB DATE Jun 85
NOTE 171p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC07 Plus Postage.
DESCRIPTORS Educational Needs; *Educational Planning; *Educational Policy; Federal Legislation; Models; *Needs Assessment; *Policy Formation; Secondary Education; State Legislation; *Statewide Planning; *Vocational Education
IDENTIFIERS *Georgia

ABSTRACT

A literature review and analysis was undertaken in order to present policymakers in Georgia with broad overview of the issues related to planning in vocational education and to propose a modified programmatic model for vocational education that would incorporate contemporary thinking about the mission of secondary vocational education and implement new federal and state legislative requirements. Various planning theories were analyzed, including synoptic, incremental, mixed-scanning, advocacy, radical, and transactive planning. The methods of allocative and innovative planning were compared. Each theory was analyzed with respect to its applicability to vocational education, public interest, human dimension, feasibility, capacity for generating action, substantive theory, goal setting and clarification, leadership involvement and development, local/regional variability, experimentation and innovation, and capacity to generate and use data. Vocational planning was also examined in relation to economic theory and the underlying economic model of planning. The study culminated in the formulation of recommendations concerning development of a (1) statewide information system that would include student and employer followup data, (2) a two-component planning model for secondary vocational education that would involve management, operational, and long-range planning, and (3) a systematic program of curriculum development and revision based on the proposed statewide planning model. Twenty-two pages of references conclude the report.

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

GA8513104

HE550401

ED266303

Planning for Secondary Vocational Education in Georgia

A Policy Research Paper

Prepared for

The Georgia State Department of Education

Office of Vocational Education

Division of Program Development

and Support Services

F. Marion Asche

University of Georgia

June, 1985

CE043608

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

A Moughon

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Table of Contents

	Page
Introduction	4
Purpose	4
Assumptions	6
Questions Facing Vocational Education Planners	10
Planning Theories or Approaches	14
Synoptic planning	16
Incremental planning	17
Mixed scanning	19
Advocacy planning	22
Radical planning	25
Transactive planning	28
Allocative vs. Innovative Planning	30
Analysis of Planning Theories for Applicability to Vocational Education	34
Public interest	38
Human dimension	40
Feasibility	42
Capacity for generating action	43
Substantive theory	44
Mission.goal setting and clarification	45
Leadership involvement/development	48

Local/regional variability..... 49
Experimentation.innovation..... 50
Generate and use objective data..... 52
Assessment of the planning approaches.... 54
The Underlying Economic Model..... 56
Modifications to Human Capital Theory..... 57
Labor queue theory..... 59
Dual labor market theory..... 60
Internal labor market theory..... 61
Job competition model..... 62
Economic Theory and Vocational Planning..... 64
Models for Planning Vocational Education..... 67
Data for Planning..... 67
Weaknesses in occupational projection data..... 70
Other data problems..... 74
Barriers to improved planning..... 77
Vocational Education Planning Models..... 80
The Planning System..... 102
Recommendations..... 105
Management and Operational Planning..... 116
Local/Regional Planning..... 120
Local planning..... 123
Executive Summary..... 135
References..... 147

Introduction

Purpose

There is no lack of desire among bureaucrats as well as among vocational educators to make the planning and delivery of vocational programs more rational. The allocation of increasingly scarce resources among competing interests focuses attention on accountability and efficiency of funded programs. Few would argue with the need for increased efficiency throughout government, including education, but educators must be careful to balance this drive for efficiency with continuing concern for issues of equity and effectiveness.

The purpose of this section is to provide a very broad view of issues related to planning in vocational education. It is hoped that such a view will present options to those individuals involved in modifying current planning practices in vocational education through exposure to basic planning concepts from other areas of education and government. Care is taken to separate issues and concepts of planning from the tools of planning since there is no shortage of planning "models" or techniques once critical issues in planning vocational programs are brought to light. It is assumed that the present desire is to make vocational planning

more functional by moving beyond a model which primarily rationalizes programs to demonstrate compliance with legislation (David, 1983).

Definitions of planning are offered by most "Planners" and people who write about planning. These definitions range from the concise "Planning is the exercise of foresight" (Beebe, 1966) to the more detailed as provided by Hudson and Davis (1976).

> "... planning comprises the development and statement of goals; determination of policy and program alternatives; assessment of costs and resources and evaluation of outcomes or effects; and the monitoring of allocations, decisions, and implementation activity..."

For the present purposes, planning is considered to involve at least three major functions: (1) Goal/purpose setting and modification, (2) systematic determination of policy and program alternatives, and (3) use of appropriate needs, cost, resource, output and outcome data to monitor programs and provide feedback to the planning process on a continuing basis.

Planning models and approaches vary along a number of continua. Approaches vary in terms of their

degree of belief in the rational ordering of events and thus their predictability. There are resulting models which range from highly quantitative and mathematical to those which are essentially "data-free" and depend almost entirely on social interaction and advocacy. Planning approaches also may vary according to time (long range vs. short range), purpose (compliance vs. futuristic), scope (macro vs. micro) and operation (static vs. dynamic).

Planning in vocational education has been criticized for being viewed primarily as a way of obtaining resources, resulting in a "compliance mentality" among vocational planners. It has also been observed that planning at lower levels models or is dictated by the requirements of higher levels. While this has been a rational response to federal legislation and regulations in which funds are contingent upon compliance, the needs for planning at local and state levels have not been well served by this very restrictive model. Unfortunately, a large portion of local and state planning resources have been devoted to rationalizing programs which are only minimally funded by the federal sources.

Assumptions

Any attempt to formalize the planning process,

especially if one is trying to make that process more rational, rests on several assumptions which have been listed by Schmidtlein (1983).

1. The technical analysis of problems, goals, and change strategies produces sufficient understanding and agreement to permit the establishment of goals and priorities. This implies that conflicts are based principally on lack of understanding rather than on fundamental disagreements over values and self-interests.

2. The area subject to planning is sufficiently understandable so that crucial relationships can be determined, technologies for change can be developed, and outputs can be identified and measured. If the nature and relationships of crucial variables are obscure, then research and development are necessary prerequisites to planning (Rivlin, 1969).

3. The economic, social, human, and information resources necessary to design, implement, and evaluate plans must be available. If the money, the ideological commitment, the human talent, and the information technology are inadequate, planning will, to that extent, be inadequate.

4. The rate of change, deadlines, and competing priorities in the environment must allow sufficient

time for analysis, an essential element in planning.

5. The consequences of planning must serve the requirements of the roles of key participants. (pp. 52-53)

Each of these assumptions has relevance for vocational education. First, planning will not resolve fundamental disagreements among decision makers that are based on values or self interests. Secondly, rational planning assumes a certain state-of-the-art of knowledge in an area. If research has not been conducted or has not been fruitful in identifying critical variables and relationships or if the variables cannot be reliably measured, rationalization of the planning process may be seriously restrained. In vocational education, the quality of presently available data on programs, students and the labor market has been questioned. There also has been no clear resolution as to whether many of these data elements are relevant to vocational programming.

Thirdly, planning requires human and fiscal resources and the ideological commitment on the part of decision makers to act on the basis of planning outcomes. Finally, planning must operate in a climate which is realistic, both in terms of the demands placed

on planners and in terms of the compatibility of the planning process with the decision making structure within an organization. Planning is not an isolated set of activities but rather, to be effective, involves social exchange within and sometimes between complex organizations. For example, within vocational education, if the primary desire is to maintain the status quo, then it would not be reasonable to implement comprehensive rational planning and certainly would be inadvisable to use any form of advocacy or radical planning. The outputs of such planning efforts would be rejected by the very decision makers they are designed to inform. If, on the other hand, decision makers are open to partial or complete redirection of vocational education, implemention of one of the more "liberal" planning models would be appropriate.

Overview and Critique of Major Planning Theories

Questions Facing Vocational Education Planners

The level of planning activity over time has increased but has been subject to spurts of activity in times of crisis. The evolution of planning theory has roughly paralleled that of research methodology. Friedmann and Hudson (1974) provided a review of the development of the major traditions in planning theory which illustrates that most major developments have occured concurrently with or following the Great Depression, in response to the spread of Stalinism and Fascism, the second World War and most recently during the "cultural revolution" in the United States following the Vietnam conflict. Activity in educational planning has followed somewhat the same pattern with vocational education planning closely tied to the requirements of major federal vocational education acts and amendments.

The advantage of having an historical perspective on planning is that the major theoretical developments reflect different philosophical assumptions - points of view regarding the purposes of planning and different degrees of belief in the viability of rationality as it applies to future events. Mannheim (1935)

distinguished between functional and substantial rationality, a distinction which is illustrative of historical value. Functional rationality relates ends to means whereas substantial rationality attempts to deal with the appropriateness of ends themselves by studying the structural relations of the social system. In vocational education this distinction takes the form of posing the question of whether the primary function of planning is allocative and serves to increase the efficiency of means-ends linkages or should planning also question ends which are often legislatively determined.

Other questions which vocational education planners should pose have already been researched and debated in other fields such as urban planning, national planning, organization development and industrial and military planning. An example is the viability of bureaucratically centralized planning in a social structure characterized by lack of central control (education). Another is the issue of freedom since planners may serve to clarify options or may use coercive power to reduce individual options for the supposed collective good. Even basic questions as to how much empirical methodology can actually improve the planning process have been addressed in different contexts.

The key "front-end" questions facing vocational education planners in Georgia as they approach the development of more effective planning mechanisms are:

1. Should the planning process extend beyond that necessary to comply with federal and state requirements?

2. To what extent should planning deal with the appropriate ends of vocational education? Should planners be restricted to maximizing allocative decisions?

3. To what extent should planning be centralized? Which decisions should be made in a top-down fashion; which in a bottom-up participatory or advocacy fashion? Is a mixed model workable for vocational education planning?

4. To what extent can empirical decision theory methods be used cost-effectively? How much of the process should be data based; how much should be social process?

The basic planning theories/models reviewed in the next section differ along dimensions related to these questions. Friedmann and Hudson's classification (1974) of the major traditions in planning theory highlights important differences. Some approaches have grown out of "traditional rationalism" and focus on

how decisions can be more rationally made. Most of the decision making is directed toward allocation of resources and seeks optimization. As a contrast, some approaches are based in organization development and focus on ways to achieve change in organizational structure and/or behavior. Rational decision theory focuses on improving the quality of decisions with little regard for implementation. Organization development focuses on the interpersonal interactions and organizational structure as a developmental/experimental process rather than on the decisions themselves. Friedmann and Hudson's third classification is entitled the "tradition of empiricism." The focus has been on the actual behavior of large scale political and economic systems. An oversimplified characterization of these approaches is that empirical investigation of operating systems will reveal the impact of variables which can then be used in predictive models. Rational decision making remains the core of this approach with such decisions based on empirical data gathered from operating systems. Microeconomic simulation models as originally proposed by Orcutt (1961) and more recently developed for vocational education planning by Conroy (1980), Beaulieu and Erickson (1977) and Morgan and

Cohn (1977) are specific examples of rational/empirical model applications in this field.

The history of planning theory reveals a sensitivity to the major issues of the time: heavy dependency on rationality, logic and decision theory up to the 1960's, with a shift to greater incorporation of participation, advocacy and decentralization in the latter 1960's, and early 1970's (Friedmann, 1973, Davidoff, 1966, Simmons, 1974). No clear direction is evident at the present time although there is continued disallusionment with highly centralized rational planning, particularly with its apparent lack of influence on implementation.

Vocational education has traditionally formally adopted the rational/empirical view of planning with a high degree of centralization and with the primary purpose of allocation of given resources to competing interests. Beyond state plan preparation and accountability reporting, however, what actual planning does take place is often informal, incremental and decentralized.

Planning Theories or Approaches

Most planning literature until recent years has focused on "rational" models and details four to six

major subdivisions of activity. Koontz (1963) listed the following five steps in the rational planning process:

1. The identification or specification of the goals or objectives for planning, the ends to be sought.

2. The determination of planning premises, specification of constraints, and forecasting of relevant exogenous variables.

3. The identification of alternative courses of action which might be undertaken.

4. The evaluation of alternative courses of action through forecasts of consequences and the assignment of relative values to various consequences.

5. The selection of a course of action through the application of some decision making rule.

More recent views of planning do not present such a clear-cut blueprint in terms of operationalizing the underlying principles of planning. Hudson (1983) lists five approaches to planning, Synoptic (rational comprehensive) and four additional approaches which have developed since about 1960, namely, incremental planning, transactive planning, advocacy planning and radical planning. None of these approaches provides a complete "planning system" for vocational education

yet each may have merit within some restricted area of vocational planning.

Synoptic planning. Hudson states that the synoptic or rational comprehensive approach to planning is a dominant tradition and that most other approaches represent modifications of or reactions to this approach. He lists four classical elements: (1) goal setting, (2) identification of policy alternatives, (3) evaluation of means against ends and (4) implementation of decisions. Techniques of planning such as regression, econometric modeling, Markov chains and simulation may be nested within one or more of the basic elements. Most recent formal efforts in vocational planning appear to model the basic elements of the synoptic approach. The primary focus, however, has been on "empiricising" the middle of the model. That is, the use of program, student and labor supply/demand data in some form of forecasting model to improve predictions of needs for expansion or contraction of existing programs and processes. Few, if any recent efforts have seriously incorporated formal planning procedures in the goal setting, identification of policy alternatives or implementation elements of the model. This again may relate to the "compliance" approach to planning mentioned earlier.

BEST COPY AVAILABLE

BEST COPY AVAILABLE

Incremental planning. Charles Lindblom has been a chief proponent for the incremental approach to planning, labeling it the "science of muddling through" (1959). He states that policy decisions are better understood and better arrived at in this approach which uses the push and tug of established institutions through normal bargaining processes. Incrementalists claim that synoptic planning is insensitive to existing institutional performance capabilities, is reductionist, fails to appreciate the cognitive limits of decision makers who really work by successive approximation and fails to recognize pluralistic public interests. In short, synoptic planning is biased toward central control. Braybrooke and Lindblom (as summarized by Schmidtlein, 1983, p. 54) outline eight characteristics of incremental planning:

1. Choices are made in a given political system, at the margin of the status quo.

2. A restricted variety of policy alternatives is considered, and these alternatives differ only incrementally from existing policy.

3. A restricted number of consequences are considered for any given policy; at any one point the analysis of consequences is quite incomplete.

BEST COPY AVAILABLE

4. Adjustments are made in the policy objectives in order to conform to given means of policy, implying that ends and means are chosen simultaneously.

5. Problems are reconstructed, or transformed, in the course of exploring relevant data.

6. Analysis and evaluation occur sequentially, with the result that policy consists of a long chain of amended choices.

7. Analysis and decision making are remedial; they move away from negatively perceived situations and toward known objectives.

8. Analysis and decision making are socially fragmented; they take place at a very large number of separate points simultaneously.

The incremental approach probably is a fair approximation of how much of the planning actually takes place in vocational education. This approach requires little central control, data collection and decision making. It recognizes the political nature of the process and that goals, values and expectations are often the source of conflict. It is remedial in that planning is conducted to "fix problems" or as stated above to move away from negatively perceived situations. It allows for bargaining by affected parties and in

action is probably best characterized by Lindblom's "muddling through" description.

There are aspects of the incremental approach that are attractive for planning in vocational education - perhaps more at the local than state level. It would appear more appropriate at the point in an overall model where policy alternatives and/or implementation strategies are considered than when empirical data could be brought to bear on the decision process. As an example, incremental procedures do not seem appropriate at the "comparing means with ends" function of the synoptic approach. Incremental approaches may be appropriate at the goal setting stage but would not allow for a true "paradigm shift" or redirection of the vocational education enterprise.

Mixed Scanning. Etzioni (1967) proposed an approach called "mixed scanning" which he characterized as being neither as utopian as the rationalistic models nor as conservative as Lindblom's incremental model. His criticism of the straight rationalistic models focuses on the discrepancies between the requirements of the model and the fiscal and mental capacities of decision makers. He also emphasizes that an agreed upon specific set of values that form the criteria

BEST COPY AVAILABLE

for evaluating options is often not available, the assumption that values and facts, means and ends can be clearly distinguished is often inapplicable and that rationalistic models generally assume a high degree of control over the situation by the decision maker. Friedmann and Hudson (1979) cited three major problems with rational decision theory which parallel Etzioni's criticism of rationalistic planning models. First is the problem of adequate knowledge of all the variables and their interrelations and the scope of the information system that would be required to supply required data. Even given an ideal situation, the projection of outcomes from what is generally a non-repetitive decision situation is inherently subjective. A second problem is one of calculation of a community welfare function. They cite Arrow's proof that within a formal democracy (majority vote), a community welfare function (the calculation of tradeoffs among a community's preferences for different objectives) could not be logically derived from premises that conform to the formalized rules of political democracy. Advocacy and radical planners have questioned not only the possibility of such a function but also its desirability. Etzioni presents the idea that in a society where concensus is low, rationally determined policies of

BEST COPY AVAILABLE

central authorities can only be carried out through the exercise of excessive coercive power. The outcome of such an "overmanaged" system is social alienation and instability.

The third problem area is one of coordination. The intellectual model of rational decision making has assumed that once a decision is made, since it is "scientific" and "rational", it will be implemented.

Etzioni cites two operational problems with the incremental approach as a normative model. First, decisions by consent among partisians without a society-wide regulatory agency will ultimately reflect the interest of some groups to the exclusion of others since power is not evenly distributed. Secondly, incrementalism focuses on the short run and tends to neglect innovations. He cites Boulding's observation that "we do stagger through history like a drunk putting one disjointed incremental foot after another" (Etzioni, 1967, p. 387). Both of these criticisms reinforce the observation that incrementalism tends to reinforce and maintain the status quo.

Etzioni also criticizes the incremental approach for its failure to recognize the importance of large fundamental decisions that fall outside the incremental decision model. This concern parallels the distinction

BEST COPY AVAILABLE

made by Mannheim between functional and substantial rationality and Friedmann's allocative and innovative planning.

Etzioni uses this dichotomy of decision types and levels as the basis for his "mixed scanning" approach. In this approach, two or more levels of "scanning" are used to deal with planning problems which inherently vary in level, complexity and import. The broader scan lacks detail but has the power to detect areas requiring attention. These areas may be addressed through an incremental approach but with the advantage of the broader view of the whole system. The mixed scanning proposal thus appears to be an attempt to deal simultaneously with the long and short run nature of problems, the incremental as well as fundamental decisions, the need for centralized concensus building without overmanagement, as well as incorporating both allocative and innovative planning. It is an ideal concept system but lacks operational detail when applied to a complex social system. The mixed scanning approach is based on Etzioni's theory of normative and coercive power and must be considered in light of the applicability of that theory to the system in question.

Advocacy planning. Based in the unrest of the 1960's and modeled to some extent after the legal model,

advocacy planning came about primarily as a reaction to approaches which did not address the unequal distribution of power in this society. Theoretically, advocacy planning should produce multiple plans that address the pluralistic needs of groups within the larger society. As an example, the transportation needs of urban low-income individuals may evoke a plan substantively different from that produced at a more macro level. Within vocational education, the needs of handicapped or disadvantaged clients may argue for an advocacy planning posture.

Peattie (1968), however, has illustrated some of the problems in implementing this theory. She cites the frequent lack of homogeneity in the needs and interests of supposed sub-groups and the potential common interests of diverse groups as examples. In a graphic illustration of this point, she cites the participation of members of the John Birch Society and Students for a Democratic Society in the same picket lines protesting urban renewal policies in Boston. Advocacy planning, since it is based on an adversarial model, may also be more effective in blocking inequitable policy than in promoting equitable or compensatory policy.

BEST COPY AVAILABLE

BEST COPY AVAILABLE

Part of the rationale for advocacy planning rests in the increasing complexity of organizations, cities and other groups. Peattie points out the resulting shift from deciding among policy options through politics to rationalization through complex technical analyses. These analyses, while making possible short-term concensus which might be difficult or even impossible to politically achieve are not comprehendable by average citizens they affect. Peattie states that this shift from politics to expertise changes the rules for exercising power as well as the structure of effective power, potentially with a loss of equity. Again, those at the bottom of the system will be least well equipped to deal with issues cast in a sophisticated technical format (Peattie, 1968, p. 81). Also, the increasing role of technical expertise in the planning process, due to both increased demands for technical and fiscal resources, has the effect of increasing the centralization of planning services and power and perhaps to development of what Etzioni has termed over-management.

The same features that contribute to the need for advocacy planning, however, make such planning difficult to achieve. Pluralistic interests generate a need but at the same time make it difficult to achieve

concensus within an identifiable client group. The resubstitution of politics for expertise is more apt to block than facilitate action. The whole matter of the costs involved in produding multiple plans has not been satisfactorily addressed. A final critical element that has not been addressed is the interrelatedness and interdependence of sub-systems within the total system. Returning to the example of special needs individuals within the vocational education system, planning in isolation for these groups may either result in innefective programs due to inadequate linkages with the on-going programs or may even significantly detract from the accomplishment of system-wide missions.

Advocacy planning thus appears to be more of a reaction to planning approaches that lack provisions for equity than a coherent theory or model. It proposes no new approach to the methodology of planning but rather attempts to involve those who have specialized needs or interests in the planning process.

Radical planning. As in the other proposals for planning reform or modification, advocates of "radical" planning have started from a base of criticism of the comprehensive or rational model. Brabow and Heskin (1973, p. 108) leveled three criticisms of the synoptic or

BEST COPY AVAILABLE

BEST COPY AVAILABLE

rational model: (1) it is elitist in that it sets the planner apart from the world he or she is to plan, (2) it is centralizing in that the type of control necessary requires centralized activity and (3) it is change-resistant in that the attempt is to eliminate all but pre-programmed social change.

Radical planning appears to embrace several key concepts but does not, by definition, provide a "rational" methodology of planning. It assumes that society, with increasing centralization, is alienating and that decentralization is necessary and desirable. Radical planners advocate that "society be reorganized so that the maximum number of decisions possible can be within the reach of as many people as possible" (Grabow & Heskin, 1973, p. 109). The notion of "paradigm shift" as proposed by Kuhn (1962) is viewed as positive and is in the interest of human development and thus should be facilitated rather than resisted by planners. A third area that is seen as compatible with decentralization and changing world views is advocacy of innovation and experimentation in social organization. This last area is often perceived as threatening in that radical planners do not feel constrained to work within existing structure and organizational patterns. The

radical view of planning stresses cooperation and communal decision-making rather than competition. It accuses comprehensive planning of placing too much emphasis on competition and economic growth objectives and instead embraces an ecological ethic or quality of life primary focus. Planning is seen as more of an act of facilitating than predicting so the planner is viewed as an active change agent rather than an isolated scientist or technician. Primary benefits derive from spontaneity, innovation and learning from the resulting changes. Progress would occur as a result of learning rather than from prediction and central control.

Hudson (1983) points out that radical planning derives from two streams of thought. The first is from "radicalism" in the literal sense of "going back to the roots." This perspective does not particularly challenge the existing system but advocates that education draw on everyday life at the "community" level with minimum interference from the state. The second stream is much more critical of present large-scale political and social organization and focuses more on the perceived ills of social class structure and control by government and education. Both streams

question the determination of a common "social good" by central planners.

Transactive planning. Transactive planning (Friedmann, 1973) grew out of the turmoil of the 1960s and was in some ways designed to ameliorate problems of social alienation addressed by the mixed-scanning and radical planning approaches. Friedmann presents an extensive analysis of the conditions in post-industrial society that call for greater communication between the planners (technical experts) and the clients through a process he calls transactive planning. The rationale is based in two areas of crisis: values and knowledge.

The movement from a history of scarcity to an era of abundance has been accompanied by a diffusion or loss of clarity and simplicity of values. The growth of cultural pluralism has made planning more complex in that the determination of a common universal good is often not possible. Earlier systems of planning advocated separation of values from the technology of planning - transactive planning calls for reintegration. Social alienation has led to activism which often blocks implementation of centrally developed plans. Friedmann cites examples of blocking of urban

BEST COPY AVAILABLE

renewal plans for several cities as examples of a weakening link between central plans and implementation. A recent example in Gerogia is organized citizen action in opposition to the "Presidential Parkway" in Atlanta.

A crisis of "knowing" has resulted from the growing scale and complexity of socio-technical systems, the accelerated rate of change and the growing gap between experienced and observed reality. Individuals and groups must now depend more upon "processed" (symbolic) knowledge and less on experiential knowledge but the growing gap between the technical expert and the client exacerbates meaningful communication.

Firedmann proposes that the solution lies in forging a personal relation between expert and client through the process of transactive planning (1973, p. 111). In this interchange, the values of the people affect the planners and planning process but the expertise of the planners informs the client - a learning process which helps link processed knowledge to action.

One may describe a dichotomy. At one extreme, actions are determined totally through political processes without benefit of scientific technical knowledge - anarchy. At the other extreme, complete dependence on technical knowledge without the value system of

BEST COPY AVAILABLE

a pluralistic society leads to the exercise of coercive power and an "overmanaged" society (Etzioni, 1967). Transactive planning is proposed to connect the political process with the technology of planning to achieve "social guidance." It should connect those who primarily have processed knowledge with those who operate on experiential knowledge. Friedmann contends that the transactive style of planning can be applied to both allocative (the distribution of limited resources among competing users) and innovative (actions that produce structural changes in the guidance system) planning. Transactive planning, at least in theory, offers the potential of addressing the apparent gap in vocational education between federal and state planners and public school personnel and clients of the educational system.

Allocative vs. Innovative Planning

The guidance of the vocational enterprise (or for that matter, all of education) might be likened to Mannheim's "social guidance" as described by Friedmann (1973) in that both functional rationality (relating means efficiently to given ends) and substantial rationality (examination of the ends themselves through intelligent insight into the workings of the social system) are required. In many cases,

planning has been defined to include only functional rationality.

A parallel exists in the evaluation literature. Some feel the only appropriate role of the evaluator is to supply information to decision makers. Planners who feel the planning mission is one of functional rationality can likewise avoid value judgements by simply accepting goals as established through the political process. The work of the planner is thus limited to the allocation role - examination of the implications of alternative allocative schemes for attaining the given goals. A further restriction is not uncommon in that resources are also generally set by the political process leaving the planners with the purely functional role of "managing" the allocations to get the best, or at least an acceptable fit between limited resources and given goals - e.g. efficiency of allocation. Friedmann labels such thinking as "an exercise in self-delusion" (1973, p. 58). His "allocative" and "innovative" planning functions seem to parallel Mannheim's functional and substantial rationality. The following discussion presents a rationale that guidance, not just efficiency, of the enterprise or system is a legitimate, in fact necessary function

of planning. In other words, the vocational education planning function in Georgia at this point in time must be expanded to include a greater focus on innovative (substantive) planning.

The sociology of knowledge indicates that the "world view" of any "group" within a society tends to restrict the ability of that group to functional rationality, thereby preventing long-range planning of a visionary or utopian nature. Mannheim's notion that a group of intelligentsia might lack the encumberances of a group membership may be more a matter of convenience than of reality. Today's "scholar" operating in the politicized university or state department of education may lack the intellectual autonomy desired by Mannheim. The challenge to designers of planning systems or models thus becomes one of somehow insuring that innovation is not extinguished in the press for efficiency or political expediency.

Friedmann defines allocative planning as the distribution of limited resources among competing users (1973, p. 17). State level management of vocational education has evolved toward a restricted form of allocative planning through trying to satisfy the educational establishment throughout the state concurrently with demonstrating compliance with federal and state

mandates and constraints. The state establishment consists of various constituencies (parents, vocational teachers and administrators, students, professional associations and unions, business and industry, and general education administrators), each group with its own world view and set of vested interests operating in a fairly rigid organizational structure (service areas, school districts).

Models of varying sophistication for planning vocational education within the existing constituent and structural confines have been developed, used and generally abandoned. In some cases, valiant original efforts ultimately have been modified to routinely provide required state plan "compliance" documents thereby sacrificing their original comprehensive planning mission. These models have exclusively drawn from the rational-synoptic or at best incremental or "mixed-scanning" (Etzioni, 1967) traditions and have served the restricted role of allocation. They can and have worked insofar as the planning role is defined as optimizing or at least "satisfycing" (Simon, 1945) allocation decisions in a relatively stable environment. They have been inadequate in times of rapid change (new legislation, technological and economic change, Education Review Commissions). Even under optimum

BEST COPY AVAILABLE

conditions of stability and funding, the cost effectiveness of increasing conceptual or mathematical sophistication is debatable.

The "fatal flaw" of extant models, however, is not one of efficient allocation. It is the inability to encourage or even tolerate what Mannheim termed substantial rationality or Friedmann's innovative planning. Present models accept the existing structure and constituency make-up as given. They even tend, by accumulating apriori historical or physical restrictions as limitations (often termed "reality" or feasibility") to perpetuate the existing condition or at best move only incrementally away from the negative, seldom toward the positive. The mission is problem-solving to the exclusion of opportunity-seeking, oriented toward defense and maintenance instead of offense and change.

Analysis of Planning Theories for Applicability to Vocational Education.

The assessment of the potential for vocational education planning of each of the theories and approaches would be fairly simple if vocational education were a narrowly defined, independent entity. It is, however, a changing and complex network of people and

services. It falls under several levels of control and funding and is related to the community and other school and social programs in ways that are highly sensitive to local needs and characteristics. Vocational education does not control the labor market its products enter nor does it presently control the pre-training aptitudes or competence of its students. Insofar as federal support is concerned, vocational educators have minimal input to the legislative process that sets its national missions, selects its clientele and determines the criteria on which it will be evaluated.

An adaptation of an old planning paradox seems appropriate: Where change is rapid and knowledge is minimal, the need for planning is at a maximum but its effectiveness is at a minimum. Where conditions are stable, information is readily available and reliable, planning is maximally effective but not needed! The relative value and feasibility of planning, however, must also be viewed in terms of what it is expected to accomplish and thus how it is defined. If planning is defined only in terms of its ability to predict the future, its ability to exercise control or to move a system toward a preconceived desirable config-

uration, the paradox appears to hold. Planning's potential to maintain the status-quo in the face of rapid change or to protect existing power structures is suspect. Much of the present loss of confidence in the value of planning may be attributed to its inability to do the impossible - isolate a sub-system such as vocational education from the larger educational and societal systems of which it is a part.

A critique of planning approaches must therefore not be based on an appraisal of their value in maintaining, protecting or even expanding vocational education. It should not start with the assumption that the best future is one in which vocational education stays the same while all about it changes.

Hudson (1983, pp 29-34) provides an analysis which used six basic criteria to assess the adequacy of several basic planning theories. The criteria include:

1. the extent to which the public interest is incorporated, (2) the attention given to the human dimension of policy impact, (3) the feasibility of using the particular approach, (4) the action-generating potential, (5) the extent to which a particular theory addresses substantive social theory and (6) the extent to which a theory is self-reflective. The first five

BEST COPY AVAILABLE

BEST COPY AVAILABLE

of these criteria have been used in a modified form in the following section. Several other criteria relevant to vocational education in Georgia are also used in an attempt to draw from the various theories those aspects which appear to have the greatest potential in the present context. The "criteria" are defined as follows.

1. Public Interest - Extent to which an approach incorporates the public/client interest

2. Human Impact - Extent to which an approach takes into account the probable human impact of actions or policies

3. Feasibility of Application - The relative probabiltiy of actually being able to use a given approach in the present context

4. Implementation - Extent to which an approach facilitates implementation of plans or policies developed.

5. Substantive Theory - Extent to which an approach incorporates substantive theories of social/organizational change.

6. Mission/Goal Setting - Clarification - Extent to which an approach assists in definition/redefinition of vocational education missions or goals

7. Leadership Involvement/Development - Extent to which an approach facilitates the utilization of expertise and development of new leaders.

8. Local/Regional Variability - Extent to which an approach can accomodate/encourage local and regional variability.

9. Experimentation/Innovation - Extent to which an approach facilitates experimentation and innovation

10. Generation and Use of Objective Data - Extent to which an approach generates and uses objective data in the decision process.

A limited rationale for the use of these ten criteria as guiding principles in the development of the present planning model is provided below.

Public interest. Hudson defines this criterion as the extent to which a planning approach incorporates the public or client interests. The theories or planning approaches reviewed in the previous section are clearly different in this regard. Synoptic planning assumes a common public interest (a view that is compatible with a centralized, top-down and mechanistic view of planning and management). This view is challenged most dramatically by radical and advocacy planning approaches, both of which deny a common public

BEST COPY AVAILABLE

interest and rather assume conflicting multiple interest groups. Incremental and transactive planning represent a middle ground between the extremes, making provisions for dialogue and negotiation among groups with different interests and views. Synoptic planning depends on central control for implementation whereas advocacy and radical planning by themselves may work against reaching the level of agreement required to provide a program that is defensible to funding sources and state-level political leadership. Artificial separation of planners from practitioners may lead to efficient planning but without extensive (or, according to Etzioni, coercive) power, lack of effective uniform implementation.

Vocational planning in Georgia must attend to the criterion of public interest but may best do so by addressing the different planning functions through different methodologies rather than through adoption of a single model. In order to meet federal and state requirements there must be a certain amount of statewide uniformity and conformance to specified missions and goals. To garner the client, parent, business/industry and local administrator support required to survive as an elective program at the local level

requires sincere attention to the needs and interests of these groups.

Human dimension. Hudson portrays this criterion as a continuum of objectivity. To what extent can the planning process be reduced to a set of objective decision rules or to what extent must it also be subject to political, cultural, psychological and ideological considerations? The various approaches to planning attend to the human dimension through adoption of alternative epistemologies or values they place on objective or subjective knowledge and process. At one extreme, the synoptic approach places almost total faith in rational use of objective data (data generally claimed to be unavailable or of dubious quality in vocational education). Advocacy planning may use objective data but only to present a case for a specific client group or orientation. Transactive and radical planners emphasize the importance of the human will and ideology as necessary compliments of technical knowledge.

Any application of this criterion to vocational planning in Georgia is not too dissimilar from the public interest criterion. Rational minds continue to be frustrated by apparently irrational political and human processes. The drive for efficiency is often

blocked by conflicts in values and interests of client groups and managers. It is doubtful that a major paradigm shift toward uniform "world-views" will take place during any forseeable planning cycle! It is thus concluded that as long as human beings are involved in the planning and delivery of vocational education, a dynamic tension between these conflicting views of the use and value of different ways of knowing will continue to exist. The fact that differences exist is probably not as important as its denial. Vocational education planning has had a tendency to depend almost exclusively on rational/synoptic approaches while attributing lack of implementaiton and other problems to data availability and quality instead of questioning the viability of the model. A review of planning literature for the past twenty years indicates a repeating observation that adequate data are "just around the corner." There also seems to be an implied view that value differences can be reconciled through accumulation of objective data rather than through social or political exchange.

A contemporary approach to planning in Georgia must therefore capitalize on whatever objective data are available (and continue to advocate improvement in this area) but not deny the existence and potential

value of experience, subjective data and human values in the planning process.

Feasibility. A planning approach that defies understanding due to its complexity is hardly feasible. Planning approaches that ignore political or social realities and historical precedent can be carried out but the plans developed will not be implemented. Rational synoptic planning is probably the most concrete and understandable approach, particularly if one assigns the statistical manipulations to a technician. It is feasible by essence of its understandibility but its effectiveness may be questionable for reasons already discussed.

The other forms of planning are less well specified and more complex but are largely composed of processes commonly employed (though perhaps not recognized as such) in educational and political organizations. Although not directly addressed by Hudson, there may need to be a distinction between technical and political feasibility. While most approaches are technically feasible, the basic principles of bureaucratic organizations may work against approaches that call for sharing of power and strengthening of subsidiary agencies. In vocational education planning, approaches other than synoptic call for greater degrees of collaboration

with academic and non-school individuals and agencies. Even the notion of sharing decision making power with local vocational personnel may be foreign to some highly centralized state administrations. A vocational education planning model must therefore strike a balance between what is technically possible and politically feasible.

Capacity for generating action. A major and recurring criticism of the rational comprehensive/synoptic planning model has been the failure to tie decision-making to action. Beautiful plans are developed and decisions made but are never implemented. Hudson cites as exceptions to this the rare case of when vast new sources of funding become available in a lump such as the economic pump-priming phase of the New Deal. Perhaps some vocational education planning efforts were effective during the period of rapidly increasing federal funding.

Since the other approaches do not focus on developing tangible, written plans, they may constitute moving targets and accumulate less criticism on this criterion. Common sense indicates that involvement of affected parties in the planning, negotiating and advocacy activities will facilitate action although the connection is less subject to empirical test than in the case of

BEST COPY AVAILABLE

the rational/synoptic approaches.

In developing the present model, the assumption was made that involvement of affected parties is most critical in the determination of mission, setting of goals and selection of programs and clientele phases (the what and who of vocational education). Such involvement is less critical as the planning tasks shift from substantive to operational - in fact too much client involvement in operational planning may be disfuntional.

Substantive theory. The notion that planning should incorporate a base of concern for substantive theory is not generally recognized in applied fields. The earlier criticisms that vocational education planning has been compliance-oriented and has been preoccupied with methods rather than substance parallel a lack of concern for any theory base for planning decisions. Even the federal legislative emphasis on access to vocational training and special services for selected populations, while admirable, does not appear to be adequately linked to a comprehensive manpower policy or based on any overarching theory of disadvantagement or labor market functioning.

The writer has contended that a restriction of research methodology in vocational education to largely

BEST COPY AVAILABLE

quantitative approaches has tended to limit the types of questions addressed by vocational researchers. In like manner, the restriction of planning methodology has served to restrict both the planning domain and who can participate in vocational planning. Rational synoptic planning (the primary methodology of vocational planners) tends to separate the planner as professional/technician from the practitioner/client and planning decisions from substantive theory. It is only fair to note that others have claimed vocational researchers should do only applied, not basic research. An equal number would surely define the legitimate domain of vocational planning to include only allocation and operation, not substance.

To the extent that vocational education operates as an integrated portion of the larger system of public education and to the extent that it legitimately encompases more than simple skills training, its planning can hardly be atheoretical. This position argues against total reliance on synoptic and quantitative methodology.

Mission/goal setting and clarification. This criterion was selected for a vocational education planning model based on two assumptions. The first assumption is that vocational education (particularly at

the secondary level) is presently in a state of mission and goal transition. The second is that in the present void, mission and goals are being set largely through political advocacy. This advocacy is taking place without participation by many concerned groups and without adequate consideration of effects on the total education and vocational education program.

Vocational education has been reformulated toward a special interest/special population program through political action at the federal level. Without discounting the need for such services, the proposed planning model should be judged on its ability to serve the broad interests of all affected parties. As an example, state and local funds still provide some 85 to 90 percent of the support for public vocational education. Present planning procedures do not adequately reflect this balance of effort. Although providing state-wide mission and goals is a function of present procedures, it is doubtful if local or regional imput has been adequately considered in the process. Almost total reliance on the federally determined goals by the states is at least partially a result of their lack of "grass roots" imput.

Rational comprehensive planning procedures have tended to weight economic/labor market factors heavily

BEST COPY AVAILABLE

(as reflected in the present evaluation system) while giving only slight attention to education factors and the interdependence of vocational goals with the general education mission of the schools. The natural tendency of present procedures is to separate vocational education as though it is an independent entity that can be planned in isolation from the rest of education.

The nature of federal vocational funding has encouraged this compliance oriented seperatist approach to planning. Recent actions in this state, however, indicate that the perceived failure of education to self-direct the change process results in externally mandated change. It is not at all clear that such mandates capitalize on the available knowledge and expertise that would help maintain a balanced, yet contemporary educational program. History indicates that externally mandated change typically results in pendulum-like swings between excesses in academism and vocationalism. Within vocational education, there is the danger of ignoring almost 100 years of experience and "throwing the baby out with the bathwater."

A model for planning vocational education should thus place adequate emphasis on development and continu-

ing reexamination of the mission and goals and should involve a representative sample of the affected parties at local and state levels.

Leadership involvement/development. Vocational Education is at the intersection of education and work; formal schooling and adult work roles. As such it must be in a continual state of change no less dramatic than the changes taking place in the workplace. Planning has been defined as social guidance (Friedmann, 1973); guidance requires informed leadership and informed leadership is perishable. Any movement toward greater local or regional involvement in vocational education planning will place increased demands on leadership personnel.

Synoptic (rational comprehensive) planning is appealing because it is highly centralized, well specified, is product generating and has recognizable boundaries. Its general failure to work has been attributed to the data inadequacies rather than to the leadership. As less objective and quantitative methodologies are brought to bear on the planning process, greater demands are placed on leaders at local and state levels. The quality of leadership in these roles becomes more vital to the success of the planning effort. In a nutshell, change through participatory planning makes

BEST COPY AVAILABLE

BEST COPY AVAILABLE

more work for everyone. Such planning requires increased quantity and quality of leadership and leader involvement.

A participatory planning model, on the other hand, has the fringe benefit of contributing to the development of leadership through involvement in the actual planning process. This is in contrast to present procedures which tend to isolate planners as technicians from leaders who are thus redefined as managers.

Local/regional variability. There are important inconsistancies in the present mandates for change in Georgia vocational education. One which is most inconsistant with the present programmatic model is the pressure for greater standardization and uniformity in programs statewide concurrently with the demand for greater sensitivity on the part of vocational education to the local and regional job market. Attending to the reality of local and regional job market variance appears to preclude greater program uniformity!

Inadequate specification of the mission and goals of secondary vocational education and the lack of a direct relationship of those goals to a programmatic model has contributed to the schizophrenia now evident. General basic educational competencies can be specified

and uniform statewide. General vocational (often called "employability") competencies also can be profitably defined on a statewide and uniform basis. Vocational competencies that are more specific and lead to job placement in specific occupations and industries found at the local level, however, must reflect that local variability.

Can one have uniformity and variability at the same time? The assumption of the present model is yes if both the delivery model and the planning model provide for differentiation of the general and occupationally specific functions of vocational education. A tentative program model outline is provided in the appendix to this document that demonstrates how this may be accomplished.

Experimentation/innovation. One of the assumptions of planning theory stated earlier was that planning leads to change. Vocational education that serves as a transition back and forth between formal education and the changing work place must itself be constantly changing. But change in and of itself is not adequate. It must be change stimulated by innovation and informed through experimentation and the applied research/evaluation processes.

BEST COPY AVAILABLE

There is a natural tension between highly quantified planning/accountability systems and experimentation/innovation. As a planning-reporting system becomes more detailed and systematized there is a corresponding loss of tolerance for programs or activities that don't "fit" the system and its attendent forms and procedures. This is not an adequate argument for laissez faire program design or management but merely points up the need to build in provisions for innovation and experimentation.

The statewide system should not only tolerate innovation and experimentation designed to inform the change process, it should be encouraged. Advocacy of innovation and experimentation by state leaders is not apt to be effective, however, if the "system" provides potential penalties rather than inducements or rewards for such activity. Much of the experience, expertise and creativity that can contribute innovative ideas resides in the local schools. The try-out and evaluation of these ideas necessarily takes place in the laboratories and classrooms of the state. The planning model must foster these processes and the programmatic model and evaluation system must not penalize its participants. The Carl Perkins Act appears to encourage such innovation through Title II, Part B funds.

BEST COPY AVAILABLE

BEST COPY AVAILABLE

Generate and use objective data. Many of the criteria to this point have stated or implied that there are problems associated with planning systems that are overdependent on objective data. Many of the problems of current data availability and quality were addressed in a previous section of this paper. To advocate participatory procedures and use of experiential and other more subjective data sources does not, however, detract from the continuing need for good quantitative data. Quantitative data and analyses are needed to inform decision makers as compliments to, not substitutes for experience and social and political procedures.

A computer-based management information system (MIS) is a necessary component for the planning, evaluation and reporting requirements of a statewide system of vocational education. The MIS should, however, be the servant of vocational programs and not the other way around. There should be a management tie between program operations and the MIS so that it does not develop as a separate bureaucracy with self-serving interests and needs.

Beyond the minimum data elements required for federal reporting, additional elements should be added only

with adequate justification. If the current federal legislation is considered to be "the" definition of vocational education in a state (in a limiting sense), then it is difficult to think of a MIS that goes beyond supplying mandated compliance data. If, however, vocational education is viewed as going beyond federal requirements and planning as more than just preparation of the "required" state plan, then the MIS can be reconceptualized as a welcome partner in the planning, delivery and evaluation cycle.

Data helps inform the planning process but data needs cannot be fully specified until certain kinds of planning decisions have been made. As an example, there are repeated demands for more accurate localized occupational supply/damand/projection data. Such data are useful in the planning/evaluation process only insofar as the vocational programs are specialized to the same level. It is not cost-effective to collect highly specific labor market data to plan or evaluate more general programs that have high elasticities of substitution across occupations and industries. If the primary function of a program is to provide employability skills then the data elements required relate to those skills, not specific occupational projections.

BEST COPY AVAILABLE

The more advanced, specialized and occupationally specific the vocational program is, the more specific and accurate supply, demand and projection data must be. The vocational planning model should assist in determining data needs and in clarifying appropriate uses of the data that are collected.

Assessment of the planning approaches. Figure one is a summary assessment of the relative strength of each of the five basic planning approaches for each of two basic planning functions in vocational education. Although based on Hudson's (1983, p. 31) original concept, the present ratings represent the author's subjective opinion in specific relation to vocational education planning.

		Public Interest	Human Impact	Feasibility	Action Generating	Substantive Theory	Mission/Goals	Leadership	Local/Regional Variability	Experimentation Innovation	Generation/Use Objective Data
Synoptic (Rational Comprehensive)	Innovative	-	-	o	-	-	-	o	-	-	+
	Allocative	-	-	+	+	-	o	o	o	-	+
Incremental	Innovative	o	-	+	+	-	o	o	o	-	+
	Allocative	o	-	+	+	-	o	o	o	-	+
Transactive	Innovative	+	+	o	+	o	+	+	+	+	+
	Allocative	+	+	o	+	o	+	+	+	+	+
Advocacy	Innovative	+	o	+	-	-	+	o	-	o	-
	Allocative	+	o	+	-	-	+	o	-	o	-
Radical	Innovative	+	+	-	-	+	+	o	o	o	-
	Allocative	+	+	-	-	+	+	o	o	o	-

Figure One: Assessment of the Five Planning Approaches for Innovation (Substantive) and Allocative Function in Vocational Education Planning.

Key: - Indicates Weakness

o Indicates Neutral

+ Indicates Strength

The Underlying Economic Model

Beliefs about the relationship of schooling to work, the education/work transition of youth and what constitutes marketable skills affect the conceptualization and planning of vocational programs and services. These beliefs are based on an underlying model or belief system about the American economic system although this "model" is often not on a conscious level or made explicit through stated assumptions. As an example, most educators overtly subscribe to a human capital interpretation of the education work relationship but tend to design programs more in keeping with a structuralist model.

The role of education in this society is viewed differently by persons with different conomic views. The conventional view is that education is the great equalizer, the pathway upward and the mechanism that insures survival of our democratic ideals. Mass public education creates social and economic equality through mobility, diminishes poverty and strengthens democracy. These views of education are compatible with the human capital model of the economic system.

Another view or set of views, however, is provided from the left. It characterizes American education

as being the great sorter; the control mechanism required to condition individuals to assume their proper place in the capitalist economy. They see the dynamics of class structure as accounting for differences in income and other rewards and see education as contributing to and legitimizing that class structure.

Neither extreme seems to be adequate to today's challenges. In its pure form, human capital theory views the labor market as rational and governed by a wage competition structure of supply and demand. Vertical mobility is enhanced for the worker who increases his marginal productivity through acquisition of skills; usually through the formal educational process. There is also an accompanying "social good" attributable to the overall raising of the skill level and thus productivity of the workforce. Education is therefore a worthwhile expenditure of public funds. During periods of rapid expansion, inexpensive resources and tight labor supply, this "pure" model seemed quite adequate for explaining labor market behavior.

Modifications to Human Capital Theory

Thurow (1972) has pointed out three discrepancies between what one would logically predict from the human capital view and the realities of the American

labor market. First, in reality, the distributions of education and IQ are more equal than the distribution of income. If true open wage competition were the case, one would expect these distributions to equalize. A second discrepancy is that while the distribution of education has moved toward greater equality, the distribution of income has not; in fact the distribution of income has moved the other direction. Along with the general elevation of education levels, one would have predicted increasing productivity. Again, this has not been the case.

Thurow cites the most devastating problem with the theory as its failure to explain the existence of unemployment. According to the theory, as the demand for labor falls, wages will fall until enough jobs have been generated to keep everyone fully employed at the new lower wages. In reality, there are many groups of unemployed workers without evidence of falling wages for those who are employed in their occupational areas. Even the casual observer of the labor market can detect artificial constraints to open competition that are related to race, sex, unionization or credentualism. Many of these constraints appear to have been ignored by vocational planners. While inequali-

BEST COPY AVAILABLE

BEST COPY AVAILABLE

ties still exist, the nation's overall productivity and socioeconomic class mobility also argue against the radical Marxian point of view. As a result, several modifications of or alternatives to the free wage competition model have been proposed. Each of the alternatives provides at least a partial explanation for the inadequacies of the original model. Among the newer proposals are the labor queue theory, the dual labor market theory, the internal labor market theory and an overall theory which incorporates aspects of each of these, the "job" competition" model as proposed by Thurow.

Labor queue theory. This view proposes that most specific job related skills are learned on the job so employers tend to view prospective employees in terms of their relative training costs. Certificates, degrees and other credentials such as job experience and test data are viewed as proxy measures of reduced training costs. Potential workers are thus arranged in a hiring queue of relative desirability, not based on specific job skills but rather on more general training costs. Finer discriminations than relative rank in the queue are not viewed as cost-effective. In a labor oversupply condition, credential standards can be raised whereas during

a labor shortage, employers must hire further down in the queue. The quality of job available to a person with given credentials is thus subject to overall labor supply and demand. An increase in the level of education or training for an individual may raise his or her position in the queue. General increases in the educational level of the workforce without corresponding elevation of "job quality" will not, however, necessarily result in increased overall productivity or equalization of income or job quality.

Dual labor market theory. (Baron and Hymer, 1971). This approach also deemphasizes specific qualifications of individuals in favor of the overall structure of the economic system. The composition of the labor market is viewed as composed of two distinct sectors. The primary sector is made up of jobs with relatively high wages, good working conditions, job security, opportunities for promotion and due process in administration of work rules. The secondary sector is composed of less attractive, low paying jobs with a lack of promotion opportunities and job security and with arbitrary work rule administration. Primary sector jobs tend to be in capital intensive industries where costs can be passed on to the consumer. Secondary sector jobs are typically found in competitive, labor

BEST COPY AVAILABLE

intensive industries with weak labor unions and little political influence.

The relative proportion of jobs in the secondary sector appears to be growing as there is an increase in service occupations. Minorities, women and youth are overrepresented in the secondary sector. A number of structural factors such as lack of expansion in the primary sector and rapid growth in the number of middle aged employees have worked to decrease the probability of transition from secondary to primary sector jobs. A link between this theory and the labor queue theory may be in the inculcation of work values in the secondary labor market jobs which raises the perceived training costs of these individuals.

Internal labor market theory (Doeringer and Piore, 1971). It is estimated by Doeringer and Piore that almost 80 percent of American employees work within an internal labor market. The internal labor market is proposed as an alternative to the wage competition model where workers are hired, promoted, paid and fired according to their marginal productivity. According to the internal labor market theory, firms establish internal rules and procedures which govern wage scales, working conditions, promotional ladders and retirement

and other benefits. Entry level jobs are typically low paying but employees stay with the firm in order to receive increasing benefits that are tied to seniority. The employer benefits from a more stable labor force, lower hiring costs and turnover and theoretically more enterprise-committed workers. This theory can be viewed as compatible with the dual labor market theory in that employers may operate within either the primary or secondary market or maintain separate internal markets for each within the same firm. In the case of a firm which maintains both, the entry point for the worker is directly related to credentials (similar to labor queue theory) and movement from secondary to primary jobs is severely restricted.

Job competition model (Thurow, 1972). The job competition model was proposed by Thurow to help explain labor market behavior unaccounted for by the human capital "wage competition" model. In the job competition model (as in the labor queue theory) the primary function of education is not to confer specific skills but rather to confer status (rank within the queue) through certification.

An individual's job placement and income are determined both by their queue ranking (partially a func-

tion of education) and the distribution of job opportunities in the economy. The queue placement is on the basis of training costs rather than specific job skills (which, according to Thurow are overwhelmingly learned on the job). Perceived training costs include the costs of inculcating norms of industrial discipline and good work habits, not just specific technical skills and knowledge.

Since direct and unambiguous evidence of training costs for a particular worker is generally not available, employers often accept as proxies such factors as age, sex, test performance and educational credentials (Thurow, 1972, p. 73). An individual who moves up in the queue through education or experience would expect under this theory to be in a more favorable wage position. The actual distribution of job opportunities, however, may not permit such movement. If not enough "preferred" jobs are being created to accommodate the increasing numbers of persons with upgraded credentials, there will be a "bumping down" or devaluation process. As an illustration, if everyone had a particular level of education, say a bachelor's degree or equivalent, the actual market value of that level of credential would be zero. The more realistic case is in a

recessionary period when there is an oversupply of workers with a particular level of credentials. A portion of this oversupply will take jobs which normally would have gone to those from lower in the hiring queue. Ultimately, those lowest in the queue become the unemployed. The visable result is that increasing levels of education/training are required to maintain the same position in the queue, a phenomenon described by Rumberger (1983) and Freeman (1976-b) as "overeducation." Economic Theory and Vocational Planning.

What do these theories offer in the conceptualization of the planning process in vocational education? Several observations are in order:

1. To the extent that the theories are predictive of labor market behavior, planners cannot automatically assume that just any elevation of credentials is a good public investment. Increases in skill level do not necessarily equalize distribution of opportunities in the labor market.

2. The most desired types of training would be those which; (a) equip individuals to enter the market at a higher point in the queue than individuals without such training; (b) equip individuals to move from secondary to primary sector jobs; (c) which improves access

to desirable internal labor markets; and/or (d) which provides access to desirable advanced training and/or jobs with above average on-the-job training opportunities. Theoretically, training programs which would contribute to expansion of desirable jobs through entrepreneurship or other means would be appropriate, particularly during periods of labor oversupply. The link between training and job creation, however, lacks adequate empirical demonstration.

3. There is some evidence that at the secondary school level, the skills which would offer the greatest potential for improving the desirability of graduates in employers eyes would be of the industrial discipline, work values and other highly generalizable skills types. Specific specialized occupational skills would be a good investment for both the individual and society only to the extent that there is a demonstrated demand for those skills in the local labor market and a lack of artificial barriers to job access by high school graduates. This is not to imply that specific job skills should not be the teaching medium for the more generalizable skills, only that one should not automatically expect related employment based on the specific technical skill content of a high school program.

Planning and economic theory have been reviewed in this section. While not a comprehensive review, literature cited appears to support movement toward a planning approach involving broader participation and more of a balance between objective and experiential/subjective data.

Current economic theory cited points out some of the inadequacies of the idealistic human capital model. While the human capital model is accepted in principle in the development of a vocational planning model, the modifications as proposed by Thurow are incorporated. These modifications appear to present a more realistic picture of the labor market faced by vocational education graduates.

Models for Planning Vocational Education

There have been a number of federal and state level funded efforts devoted to development of a planning model or models for vocational education. State, local and institution-level models have been proposed and in some cases implemented. Proposed models vary along lines of complexity, data requirements, scope and purpose. Of those models indentified, however, most incorporate the rationalistic view of planning and assume a level of data quality and availability that is optimistic at best. As mentioned previously, few models have dealt with strategic planning or policy formation or guidance since the focus has been on operations and allocation of resources.

An adequate data base made available through some form of formalized data collection and analysis is assumed for all rational-comprehensive models with the required accuracy and specificity of data dependent upon the goals of the particular model. The primary formal data sources are thus considered prior to examination of selected models.

Data for Planning

A primary source of industry/occupation projection data is the publications and data tapes made available by the Bureau of Labor Statistics (BLS) (See Rosenthal,

1983, for a concise review of several BLS publications and a description of methodoligies used by BLS).

Based on a two year cycle, these projections depict occupational employment on a national level through application of a series of models and an industry/occupation conversion matrix. Most states use a similar process to make projections at the state level. The basic process includes several discreet steps. First, projections of the labor force by age, sex and race are made based on Bureau of the Census data which includes birth rates, death rates and net migration. The BLS target year is usually ten to fifteen years from the Census base-year so most persons who will be in the labor force during the target year have already been born, making such projections quite accurate.

Labor force participation rates for fifty-four separate age, race and sex groups are projected based on past trends in data from the Current Population Survey (CPS) and factors likely to affect participation rates. Population projections are then multiplied by estimated labor force participation rates for each group.

Second, a macroeconomic model is used to project gross national product (GNP) and its major components

such as consumer and government expenditures and net exports. Through a series of sub-models, the projected demand in each major sector of the economy is distributed to specific purchasers of goods and services produced by 156 industry sectors. An additional model is used to estimate inter-industry purchases.

Third, projected output by industry sector is converted into estimates of industry employment through application of a labor demand model. This model takes into account estimated productivity by industry to convert projected output (based on demand) into projected employment. Industry employment still must be converted into occupational employment to be useful for most planning purposes.

This forth major stage is accomplished through creation of an industry/occupation matrix. The matrix shows the proportion of the total employment in each of the 156 industry sectors accounted for by each occupation. These ratios can then be multiplied times total industry employment to derive occupational employment projections. Through shifting of the primary data base from the Census to the Occupational Employment Survey (DES) in 1980, and use of a series of correlational equations, the matrix has been increased to

BEST COPY AVAILABLE

1,678 specific occupations and 378 industries. All of the projections are for wage and salary workers only, not self-employed or unpaid family workers. The same basic procedures are used to develop current and projected occupational employment totals.

All of these procedures produce estimates of industry and occupation membership in the target year. One might conclude that job openings could then be calculated by simply subtracting current from projected membership. The business cycle, general recessionary or inflationary periods, dramatic changes in government policy and other factors, however, may directly affect occupational replacement figures. More indirect influences may be exerted by moderator variables such as labor substitution within or across skill levels or capital substitution for labor. Interoccupational mobility of workers is not typically considered on either supply or demand sides of estimates.

Weaknesses in occupational projection data. Rosenthal (1983, p. 12) cites several potential limitations of the BLS data. Among these are inaccuracies in the actual statistics due to sampling and response errors, unanticipated changes in business activity, unanticipated political events which may change the basic

economic structure (e.g., the oil embargo), or social structure (as reduction in demand for barbers due to men changing to long hair styles), reasoned judgement about occupational trends may also be in error. These sources of error or the fact that regional trends may differ substantially from the overall national picture may limit application of these data beyond indicating broad national trends in vocational planning. Most state employment security agency projections are based on the national projections (as applied to state employment data) so they may also fail to adequately compensate for regional geographic shifts.

Other factors may affect the potential value of BLS data in vocational planning. The supply of potential workers for an occupation derives from multiple sources. Formal public vocational education may be a major or in some cases only minor sources of workers. If vocational education is a dominant source, relatively small proportional changes in output may dramatically affect placement rates. If, however, public vocational education is a minor supplier, increases in output may make a relatively small impact within a particular occupation.

The elasticity of substitution of labor may allow

persons with similar skills to qualify or transfer from other occupations to supply some of the need within a particular occupational classification. Competing suppliers for an occupation may include the miilitary, proprietary schools, or public schools at a different level (eg. postsecondary graduates may "bump" secondary graduates of similar programs). Also, the internal labor market within corporations may be the primary source through formal or informal on-the-job training of workers. In a similar manner, the labor queue and dual labor market theories may explain some of the variance in supply-demand match not accounted for by traditional wage competition theory (see, or example, Thurow's job competition model).

An additional factor that may affect the usefulness of national level data and state adaptations of these data is the relative geographic mobility of vocational graduates. A number of studies (see for example Scott and Conner, 1980) have found that a higher proportion of vocational graduates remain in the immediate geographic area of their training during the early career establishment years than is the case for most four year degree graduates. This may make accurate

projections more critical for occupations served by vocational education, particularly in the case of programs designed to prepare workers for one or a few specific occupations as opposed to more generic training.

Merz, et. al. (1981, pp. 6-7) listed several findings about the use of data in local planning. These findings are summarized below:

1. Published employment data are used more as a check to verify the validity of ideas for programs.

2. Data about students' interest in vocational education programs and data about enrollments and enrollment trends have a higher priority in local planning than do employment data.

3. The use of demographic data is generally limited to planning new facilities at the local level or to determining funding eligibility at the state level.

4. Economic and financial data appear to be underutilized in vocational education planning.

5. When published data are used in vocational education planning, those data gathered from local sources are felt to be more useful for planning purposes than published data received from state agencies.

6. Reservations about, or problems with data are cited primarily with reference to employment data. Vocational educators feel that substate data provided by state employment security agencies are lacking in sufficient geographic and occupational detail.

7. Reliable occupational supply information is particularly hard to obtain.

Other data problems. Problems of the compatibility of multiple occupational coding systems, level of data disaggregation and currency of data have persisted over time. Drews and Bice (1981) cite one of the most serious limitations of job vacancy data based on OES statistics as the limitation of scope since only those vacancies reported to local employment security officers are included. Current employment or employment projections data are less than maximally useful for reasons stated earlier.

Goldstein (1980) cited a number of problems with trying to work with both manpower and vocational education data and particularly when these several data sources are juxtaposed. Problems with data from the Vocational Education Data System (VEDS) include interstate variance in what constitutes a "program, variance in the manner in which data are collected within states,

exclusion of programs not covered by the state plans, duplication of counts between vocational education and Department of Labor programs, and variance from state to state in the detail on program categories.

In addition to the continuing problem of crosswalk between the different data sources, Goldstein lists other problems in juxtaposing these data such as specification of the mode of training needed for entrance into various occupations, difficulty in matching curricula with occupations, difficulties in getting complete supply information and problems with identification of appropriate geographic areas for vocational planning. He also lists organizational and institutional impedements to use of planning data. Included are: decentralized control in public education results in considerable variance in how programs are organized, funded and delivered; unfamiliarity of state and local vocational administrators with manpower data, and lack of flexibility in adjusting programs even if data indicate the need to do so.

Starr (1982, p. 3) points out the lack of correspondence between available employment data breakdowns and local needs. There are differences in the useability of employment data between urban and rural areas and there are contradictions between the data that

are available to schools and the experiences of vocational education graduates in the labor market. Benson and Hoachlander (1980) in assessing why many vocational education agencies do not use labor market information for planning programs pointed out the lack of control over the contraction and expansion of various sectors of the economy, as well as over hiring and dismissing of teachers at the local level. "Yet states continue to prepare thick documents of detailed figures on labor market supply and demand that are largely ignored by all concerned." (1980, p. 51 Starr, et al (1982) found that when labor market information is in fact used in making decisions about vocational program change, it is often used to justify decisions that have already been made on other bases. Drews and Katz (1975, p. 22) reported a discernable tendency of vocational education personnel to distrust manpower data provided by Employment Security Agencies and the Bureau of Labor Statistics.

Recent legislative acts related to vocational education have advocated (if not mandated) greater use of labor supply and demand data in vocational education planning at state and local levels. Virtually every document on the subject of vocational education planning

in the literature recommends or at least implies that such data are essential to rational planning. It is also apparent, however, that there remain many problems of both quality and availability of data. Several state occupational information coordinating committees (see for example Virginia) have developed systems which make regional supply/demand data available to vocational education planners. Without such locally relevant data, most of the vocational education planning literature and models to this point in time are purely speculative.

Barriers to improved planning

In addition to problems with data, a number of authors have addressed other barriers to planning. A good summary is provided by Attebury (1977, pp. 150-157). After some two years of effort in developing a planning system which included provisions for both strategic planning/policy determination and administrative (Operational) planning, the developed system was not adopted. Reasons (barriers) proposed for the failure to implement an improved statewide planning were:

1. Disincentive to plan: It may be in the actors best interest to not plan. They may believe that planning constitutes a threat to the existing structure.

Attebury states that this belief is held by many state level administrators as well as by vocational administrators. Each of the affected groups has a vested interest in seeing that the existing balance and mix of programs is maintained.

2. The existence of a Laissez-Faire Educational System: Attebury claims that this argument is faulty. He cites the historic federal presence in vocational education and the state reimbursement of salaries, certification of teachers, purchase of equipment and facilities and support of teacher education programs as evidence that states do not have a "hands-off" policy. The claim of local autonomy as a reason for not planning is rejected by Attebury.

3. Inadequately trained administrators: Attebury questions the present model for certifying vocational administrators. The claim is made that limiting access to vocational administration to those who have teaching and occupational experience results in administrators without necessary administrative skills such as managing, planning, organizing and controlling. It should be noted that some critics have claimed just the opposite - that there are too many administrators without appropriate educational or vocational creden-

tials. Stevens (1976, p. 37) stated "Returning to the asymmetry between potential rewards to action and anticipated losses from a failure to act, we can see that virtually no one in an administrative role has a strong incentive to contribute consumate performance in any DOL or any one else's employment projection."

Merz, et al (1981, pp. 5-6) reported findings related to the planning process at the local level. A summary of these findings follows:

1. Relatively few local schools have a long-range institutional plan for vocational education.

2. Long range planning, when it does take place, is most often in relation to facility planning.

3. Local schools do engage in planning activities but these activities are generally not written up.

4. Local applications for federal funds seldom contain sufficient detail to serve as planning documents.

5. Larger secondary and postsecondary schools are more likely to have formalized planning processes and policies.

6. Decisions about vocational education programs and services in many schools are often made by persons

who are not vocational administrators.

Vocational Education Planning Models

There were many vocational education planning "models" proposed in the 1970's with a noticable flurry of activity following the 76 amendments. It appears, however, that more planning took place in developing the models than has occured as a result of ther use. The bulk of planning resources and personnel has been consumed by the necessity of preparing "the" state plan, accountability report and local applications. All of these documents are geared to demonstration of compliance rather than stimulating planning.

Several models are reviewed here to demonstrate their potential utility and level of development. It is difficult to assess the potential of specific approaches until key administrative decisions have been made. As an example, the usefulness of a detailed local planning model as developed by the Proaction Institute (Hamlin and Muth, 1977) is dependent upon the extent to which state level vocational administrators condone local program variability. The notion that localities should use planning to "justify" a program that has been established by a higher level

authority is antithetical to viable local planning. If it is not possible to add, change or delete programs as a result of planning, the motivation is not to plan.

The extent to which a coherent state philosophy of vocational education defines the primary missions of secondary vocational education in turn establishes the relevance of specific manpower data, development of innovative or short-term programs, etc. As an example, if specific occupational preparation is limited to senior level classes as has been proposed in Georgia, specific demand, supply and placement data would only be relevant in those occupational areas for which current or proposed programs exist. More general long-term trends within broad occupational areas would be more relevant data for planning cluster and career orientation courses.

The first model reviewed was produced by the Proaction Institute (Hamlin & Muth, 1977) and is one of the most highly developed models for vocational education planning at the local (or regional) level. It has been published in a series of ten monographs which include a computer program and step-by-step instructions and forms. One unusual feature of the detailed model

is that it provides for varying levels of sophistication at each of the eight major steps so that in its simplest form neither data collection or computer analysis is required. With some updating and modification, the Hamlin model could be provided to local vocational administrators as a planning "kit" with detailed step-by-step procedures. The eight major steps of the model are:

1. Total Enrollment Projections
2. Student Interest Assessment
3. Labor Market Demand
4. Program Enrollment Projections
5. Instructional Staff Needs
6. Instructional Staff Costs
7. Capital Outlay
8. Consumable Costs

A somewhat simplified version of the model is presented (Hamlin & Muth, 1977b) which provides a single data collection approach at each of the model's steps. The stated purposes of this "preliminary" model are to provide the vocational administrator with a method of projecting the need, supply and cost of vocational education programs offered by a single district or agency. Documents developed by the Proaction Institute

of interest to vocational planners include:

Long Range Vocational Education Planning Project: Final Report

Planning for Vocational Education

A Policy Information System for Vocational Education

Preliminary Long-Range Planning Model

Vocational Education Summary Planning Program

Data Elements Dictionary for Vocational Education

Planning for Vocational Educatoin: A Selected Bibliography

Policy Informative System Computer Program

Implimenting Long-Range Planning for Vocational Education

A second model reviewed for the current project was the River Hills Regional Project (Steenhausen, Schwandt and Michael, 1981). The River Hills (Indiana) Project was established to develop and implement a regional vocational education planning and communications model. The project was conducted over three years and contained three major components: Organization/leadership, communications and planning.

Several advantages of regional communications and planning are stated:

BEST COPY AVAILABLE

1. Sharing equipment

2. Avoiding program duplication

3. Increasing the number of vocational programs available to students

4. Facilitating the transition of students from secondary to postsecondary programs.

5. Sharing training needs and placement information

6. Better response to employers and community training needs

7. Facilitates placement

8. Promotes economic development

Potential obstacles to regional communication and planning cited included:

1. Lack of autonomy by local units inhibits decision making

2. Institutional loyalty

3. Time required

The overall model is depicted in Figure 1. Each of the three main model components are composed to two or more sub-components. The Organizational/Leadership Component consisted of a project coordinator and a project steering committee with members representing the participating schools, the Regional Planning Com-

ORGANIZATIONAL
LEADERSHIP
COMPONENT

Project Steering Committee

Project Coordinator

COMMUNICATIONS
COMPONENT

Regional Advisory Councel

Regional Newsletter

Regional Training Presentation

Regional Brochure

PLANNING
COMPONENT

Regional Planning Committee

Survey of Vocational Education Programs

Survey of Manpower Information Needs

Survey of Manpower Needs

Figure I - River Hills Regional Communication and Planning Model (Steenhausen, Schwandt & Michael, 1981, p. 8).

mission, the Indiana Employment Security Division and the Occupational Development Center.

The Communications Component consisted of a Regional Advisory Committee, a Regional Vocational Education Newsletter, a Training Presentation and a Regional Brochure. The Regional Advisory Council included members from education, business and government. The tasks of the Advisory Council focused on ways to raise employer's awareness of vocational education services, approaches to making vocational education more responsive to regional and employer needs and ways to facilitate the placement of vocational education program graduates.

The Regional Newsletter was developed to present general information about vocational education and training in the region. The newsletter was provided to employers, secondary and postsecondary educators, guidance counselors, government officials and community agency personnel. The regional training program was developed to provide information on vocational education to employers. A regional brochure was developed to provide an overview of vocational education and training opportunities in the region.

The Planning Component included the following

sub-components:

1. A survey of vocational education programs - a mailed questionnaire that obtained information on the vocational education programs currently available, the number of students who had recently completed these programs, the number of students expected to complete these programs in the next few years, the number of students that could be accommodated when the programs operated at capacity, placement statistics and other topics pertinent to the project's regional planning information needs. Separate questionnaires were used to survey secondary and post secondary institutions.

2. Survey of educators' manpower information needs - vocational educators who were likely to participate in regional planning efforts were surveyed to determine what information they would need to plan vocational programs adequately.

3. Survey of employers' manpower needs - An extensive interview methodology was used to determine the general nature of each employer's business, the job titles used by the employer, the critical tasks performed under each job title, the number of employees hired during the past year in each job title, the projected hiring statistics for the next year and the

next five years, specialized equipment used on the job, qualifications for employment, and the employers' training needs.

4. Regional Planning Committee - It was originally anticipated that the project steering committee would use the collected data to begin regional planning. While discussion did take place, it became obvious that a separate planning committee would need to be formed to carry out the actual planning tasks. The Planning Committee was composed of vocational educators and administrators from the sponsoring schools.

Observations by the project staff indicate that a number of problems were revealed during the course of the project. While the steering committee did serve as a forum for communication among administrators much of the communication was guarded, particularly in reference to long-range plans of the institutions. Since this prevented the steering committee from functioning as a regional planning group, a separate planning committee was formed. The steering committee did continue to support the project throughout its three year duration.

One of the most difficult and costly project activities was the collection of manpower demand data from

BEST COPY AVAILABLE

BEST COPY AVAILABLE

business and industries within the region. For the most part, employers were cooperative in supplying the rather extensive data but there was no evidence that the detailed information was actually needed or that it would ever be used. It was concluded that while highly detailed information on programs and occupational demand could be gathered, it was probably not necessary for coordinated planning at the regional level.

The River Hills Project again seems to demonstrate that there are numerous disincentives and few apparent rewards for administrators to conduct serious planning for vocational education.

A third, well developed planning model reviewed by the current project was the Illinois Model for Regional Vocational Education Planning produced by the Northwestern University Vocational Education Planning Project (1976).

A review of planning procedures in place at the inception of this project revealed a heavily compliance oriented system characterized by the filling out of forms and justification of present practices within state determined quidelines. Preliminary research revealed the most important factors influencing program

change (expansion, modification, discontinuance) were enrollment changes in a program, overall school enrollment and dissatisfaction of the school board with present programs. Among the lowest in influence were change in the level of state reimbursement, information about job availability generally, specific information about job availability to graduates in particular occupational programs, changes in accepted standards within the teaching profession, changes in availability of federal grants, availability of new texts or teaching equipment and information about wages offered in different occupations. In essence, programmatic change did not seem to relate in significant ways to the types of information typically generated by rational planning models.

Additional research investigated the importance of particular groups in generating ideas for changes in vocational education and in having sufficient influence to have their ideas adopted. The high influence/high ideas classification included the superintendent, principal and vocational teachers. The high influence/low ideas quadrant included the school board and its chairman. The low influence/low ideas quadrant included parents, students, industry and government, other teachers and librarians. The low influence/high ideas

BEST COPY AVAILABLE

BEST COPY AVAILABLE

quadrant included only placement officers. These findings also indicate that actual change and ideas for change come largely from the professional educators/administrators within the school system. The question remains as to whether the relatively low impact of employment data and industry/business representatives is inherent in the structural characteristics of the system or due to the relative unavailability of input and accurate data from these sources. Government employees or officials and state education agency liaison were both rated low in ideas and influence, indicating at least the appearance of ineffectiveness of present planning procedures in bringing about change in vocational programs.

Other findings were that the planning vocational educators are most familiar with is associated with filling out forms and counting section enrollments and courses, planning has been conducted primarily to satisfy local school boards and meet compliance procedures of the state agency, and that there is a general lack of incentives to work together in a region.

The report states that there is a natural tendency for people in state government to assume that planning must occur from the top down. This project explored the alternative of planning from the bottom up through

the organization and operation of a regional council for vocational education covering 15 southwestern Illinois counties.

The basic framework of the model examines the region in two basic dimensions: first, as an economic unit, and second, as a subsidiary concept of a labor market. The basic labor market concept used was a three element model: (1) the supply of labor, (2) the demand for workers; and (3) the intermediaries required to help individuals in the supply of labor succeed in jobs in the region's labor market. Vocational education was viewed as an intermediary which can facilitate matching individuals and jobs. It changes the skills of individuals and modifies their behavior in the labor market through preparation for employment in disciplined work situations.

The model attempts to view vocational education in a dynamic relationship with the labor market and individuals rather than in the static condition of simply trying to supply workers to the industrial composition of the region, the economic conditions and the characteristics of the labor force. The dynamic role envisioned is for vocational education to participate in the labor market as a catalyst for altering conditions, both in the supply of labor and in the

BEST COPY AVAILABLE

demand for it. Such an approach involves vocational education in economic development - using vocational education resources to improve the economy and to help attract industry to the region.

A second aspect of the regional planning model was the development and application of an employer-based methodology for surveying the employment expectations in the region. The third component of the model, the supply of trained personnel, was to be developed through the existing MIS system but as of the date of publication was not fully operational.

Two basic assumptions were stated that were recognized by the planning model:

1. The planning system must recognize that the success of vocational education in formal schooling depends on its abiltiy to help students understand, prepare for, and make informed choices regarding occupational opportunities in the community and region in which they expect to live and work. Employers and the community must be consulted and included in the planning process.

2. The planning system must recognize that it deals with a world in which there are multiple and sometimes conflicting constituencies. Each of these

have expectations about what schools should do and these notions sometimes collide. (p. 110)

Five goals found to be operating within the area of the study were:

1. Planning can be used to move vocational education toward meeting the personnel needs of existing employers.

2. Planning can be used to help students prepare for jobs that are satisfying to them and establish careers that are the most economically and socially productive.

3. Planning can be used to help increase the role of vocational education in the social and economic growth of the community and the region.

4. Planning can be used as a tool of intergovernmental accountability, a method by which the state can monitor its expenditures and can account for federal funds allocated to it.

5. Planning can be used as an organizational game, in which bureaucratic paper-pushing gives the appearance of activity and change when nothing is really happening.

The project found that incumbants of different organizations involved in or influencing vocational

BEST COPY AVAILABLE

BEST COPY AVAILABLE

planning had different perceptions of planning. The project research team saw it as problem-solving, useful in integrating education with economic development. The state Division of Vocational/Technical Education saw research, planning and policy as separate entities. Area colleges and schools saw planning basically as an activity undertaken to satisfy state requirements, as a decision-making process within schools with change often constrained by lack of resources. Business and industry indicated general fatigue with developing plans.

Conclusions and Recommendations:

The development of regional vocational education (planning) councils was depicted as consisting of three planning stages: (1) planning to organize, (2) planning for information, and (3) planning with the new information obtained in the second stage. The first stage requires conceptualization of what constitutes a region, how the council in a given region should be organized and operated and what the council is asked to do. The second stage essentially consists of determining what data are needed for the planning tasks to be carried out by the council and determining which of the data are already available for existing sources. The third

stage is dependent on the kinds of decisions made in the first two stages and relates to the particular type or approach(es) to planning adopted.

Specific findings of a two-year funding and test of the model included:

1. Limited formal encouragement or support from the Division of Adult and Vocational Education to adopt the planning framework developed in the study was secured.

2. Despite competing demands for educators' time and lack of formal support from the Division, (Vocational Education Division, State Department of Education) much progress was made in testing the model and its potential.

3. Vocational educators were willing to explore new concepts as a means to improve programs. They know little about employers or the nature of work in their region. They were largely unaware of economic factors that might profoundly affect the character of their schools. They had no experience planning together.

4. Each school district plans separately, based primarily on the kind of planning that commonly occurs in schools in response to higher authority. Schools plan with information designed to justify budgets,

fill out forms and meet requirements for recognition and funding.

5. Vocational educators and school administrators do not see their programs as an economic resource; they still think primarily of planning in terms of program approval.

6. Educational planners show little understanding of what happens to people when they leave school and enter the labor market. There is also little awareness in schools of what happens to people in the long run. Local curriculum is planned with very limited knowledge of employment opportunities in the larger labor market of the region. The mandated follow-up process has little impact on planning in most schools.

7. Local curriculum planning is often based on the equipment, facilities and staff available, with no awareness of the jobs and training in demand.

8. There is a need to pool resources more often, especially in the least urban portions of the state - more schools need to share expensive equipment and facilities to broaden the range of occupational programs available to individual students throughout the region and the state.

9. The conduct of the employer survey and partici-

pation in the consortium helped expand the horizons of the vocational educators and was a worthwhile professional development experience.

10. People in the schools, especially administrators, are overcome by the pressures of their jobs. Their duties did not permit them to plan programs carefully in terms of the concerns of this study. One source of the pressure is the stream of compliance and reporting requirements which continue to perpetuate the narrow view of planning present in educational institutions in Illinois. Administrators did not see the Division or the Office of Education as a resource for support or encouragement in their work. This relationship improved considerably toward the end of the first year of the project.

11. The role of the state office and the Division should be to produce the climate within which careful planning is encouraged and rewarded.

12. It was found that vocational educators, even in the face of a double record keeping system and the press of their daily duties are capable of self-organization in a regional council. They were willing to cope with new ideas and, with technical and financial support, undertake a major study to advance the level

of information and knowledge about the employment opportunities and labor market of their region. Their greatest limitation in working with these ideas is the lack of incentives to divide their time in such a way that they want to plan instead of responding to other demands.

Recommendations of the project staff included:

1. The first step for the division is the need to conceptualize the regional planning model as an educative and social process designed to help state and local organizations work out their political competitiveness. The process transcends the issue.

2. The Division and IOE must decide whether to begin building a state-wide network of regional councils - without a commitment to encourage and support local educators in such an effort, the press of other demand on their time and energy will preclude the full participation in such an effort.

3. Assuming the decision is affirmative, the first step is to decide in general terms what the expectations are for the regions (What aspects of planning are appropriate at this level?) and the general criteria for formation of regions.

4. Another role appropriate for the Division is to assist with building relationships with other

agencies of state government that collect data potentially useful to regional councils.

5. The Division should sponsor training and information seminars for vocational educators and administrators in each region.

6. THe Division should assist each potential region with the process of evolving locally determined criteria for future economic development and labor market planning.

7. Based on evaluation of progress in potential regions of the state, it is recommended that the Division identify three as pilot regional councils and assist those three in developing needed information about labor market planning at state and local levels.

8. The Division should serve as a catalyst for encouraging the pilot regional councils to communicate with each other and to share their knowledge and experiences. It should serve as the communication bridge between regional councils and the federal government on matters related to funding and planning in Illinois.

9. The Division should assume leadership in securing funding to help support the network of regional councils.

10. Field staff in each region should support

and participate in the activities of regional councils as they develop.

The Planning System

Federal vocational legislative acts have precipitated periods of activity in data collection and planning. As of this date, however, there is no commonly accepted "model" or set of procedures for planning at the local, regional or state level. Planning systems and models have been developed (primarily of the data-based rational-comprehensive type) but often never piloted nor implemented on any significant scale. Several authors have charged that there are just too many disincentives to plan and that vocational administrators view planning as a threat to the status-quo.

The most common criticism of vocational planning is that it has become almost entirely compliance oriented in order to justify funds applications or expenditures. The primary critisisms offered by this document are that in addition to the compliance orientation, vocational planning has been highly centralized, almost entirely allocative with little or no provision for long range innovation and development or input by significant affected parties, and has tended to ignore values and the political realities of public schooling. While this is a negative appraisal of vocational education planning efforts, it is possible to have an appraisal

only because vocational education has continued to put effort and resources into systematic planning - most areas of education have not.

Any system of planning for vocational education in Georgia must recognize and accomodate a number of factors. Among these are:

1. Administrative decisions affecting vocational programming, faculty, scheduling and enrollments and budget occur at the local school level and are often made by general rather than vocational administrators. Vocational education, while partially funded by earmarked federal flow-through funds, is in fact an integral part of the total school curriculum - i.e. it cannot be planned in isolation from the rest of public education.

2. The Carl D. Perkins Vocational Education Act and the Georgia Quality Basic Education Act include both restrictions and mandates for change in vocational education. The establishment of an independent Third Board for postsecondary vocational education in Georgia raises new issues for planning and administration of vocational programs. The problem of secondary/postsecondary articulation is directly addressed in the Second Report of the Governor's Education Review Commission.

Any system for planning secondary vocational education in Georgia must start with the baseline assumption that the requirements of these recent acts are given and cannot be ignored. A number of recommendations of the ERC have not yet been clarified by official policy statements or documents.

3. Georgia has one of the most complete vocational education data systems in the nation. There are, however, still problems - particularly in the area of secondary student and employer follow-up. Although not part of the present data system, there also does not appear to be a mechanism for producing reliable regional occupational demand or projections data for vocational planning. Since the mission and purposes of secondary vocational education have not been adequately defined, broadly articulated or accepted; data requirements for adequate planning are unknown.

The first report of the ERC calls for a statewide information system for schools and agencies for efficient data reporting and sharing. Vocational programs are included as one of the 12 program areas for data access (curriculum data, student enrollment and performance data, staff data and cost accounting data). Other data potentially useful for vocational planning

such as student and employer follow-up, student interest and aptitude and occupational demand and projections are not presently called for in the statewide system. Also, collection of occupational supply/demand data under the federal legislation is to be coordinated across Education and Labor departments. The level of occupational specificity of the data required for secondary and post-secondary vocational planning is also different and should be coordinated between these two levels.

It is also unclear as of this date what will be required by the NCES Vocational Education Data Systems (VEDS) under the new legislation. The present Georgia MIS system exceeds VEDS requirements of a 20% sample of vocational programs for student and employer follow up but present return rates yield data of questionable reliability and of little use for local planning or evaluation.

Recommendations

A. Data System:

Much of the present data system was designed to meet the requirements of earlier vocational legislation and using computer technology available at that point in time. Several recommendations are offered

this system.

1. The Program Development and Support Services Division, Office of Vocational Education should be represented in the development of the statewide information system called for under the QBE Act.

2. A representative committee (membership to include, at minimum, a vocational director, vocational supervisor, vocational teacher, present data center manager, school principal, representative of the school superintendent's organization, SDE staff/planning and evaluation, university vocational education staff/ planning and evaluation, data management/computer specialist, representatives of JTPA and GOICC) should be formed to review the present data system and data elements in that system. This ad-hoc committee should be oriented to data requirements for federal and state reporting, proposed data requirements for state plan development, potential requirements under QBE and present and anticipated requirements for vocational program, staff and student evaluation. Any agency requiring data on vocational programs, students, etc. should submit to this committee its proposed data requirements along with an element by element justification. The same basic forms and procedures used by the National

Vocational Education Data and Accountability System (VEDS) at its inception would be suitable for this purpose.

The committee should recommend a minimum and a "minimum plus" data set. They should also provide a set of recommendations regarding the proposed relationship of the vocational education data system to the statewide system provided for under QBE. The committee should consider proposals for a merger of the two systems and for a standalone centralized as well as region-based microcomputer system.

The committee should also make recommendations regarding the level of occupational specificity useful to planners of secondary programs for labor market supply, demand and projections data. These recommendations should be coordinated with the state Occupational Information Coordinating Committee and JTPA. It is recommended herein that only general national, state and regional trend data are useful for general planning purposes with more specific data useful primarily for modifying senior-level job preparation programs.

3. Once the specific data elements are determined, the present follow-up system should be redesigned. Present return rates invalidate the resultant data for

both statewide reporting and evaluation as well as for use at the local or regional levels. Separation of post-secondary vocational education may argue for a separate system devoted to the needs of secondary vocational education. Present follow-up forms should be redesigned to reflect the required data elements.

If the programmatic structure recommended elsewhere in this paper were to be implemented, the post-school follow-up of vocational students and their employers would be focused on completers (and perhaps non-completers under certain conditions) of the "capstone" courses only. Students who complete only first or second level courses would not be followed up on an annual basis but might be included in the year prior to development of a new long-range plan.

The return rates must be increased if the data are to be of value for anything beyond simple federal campliance. Consideration should be given to several alternatives:

(a) a hybrid system with system design and data analysis and reporting centralized at the state level but with actual data collection conducted at the local or regional level (Minnesota is currently using such a system at the secondary level, Virginia is in the process of converting their system to this configuration)

(b) a school sample system in which only 20 to 25% of the school districts are included in any one year with resources available due to smaller numbers of contacts devoted to securing returns from those followed up.

(c) a system based on following up only "capstone" courses would involve reduced numbers and therefore free up resources to devote to multiple mailings or a phone system to increase returns.

(d) depending on how the R.E.S.A. system is developed, follow-up might be conducted at the regional level by a vocational planning/evaluation specialist assigned to each R.E.S.A. This could be a microcomputer-based system with electronic data transfer for aggregation at the state level.

4. Conversion to the National Center for Education Statistics (NCES) "Classification of Instructional Programs" numbering system should be made during the current planning cycles.

Planning recommendations.

It is not possible to recommend all the specifics of an overall planning model for secondary vocational education in Georgia without state level administrative/policy decisions regarding the degree of autonomy

local vocational and general administrators will have in program selection, design and standards, the type of evaluation data that will be collected, the statewide program design or model and the impact of QBE/ERC on vocational programs, administration and data systems. Having said all this, however, a number of recommendations and a proposed program model are offered for consideration. This set of recommendations may constitute the basic components of a planning "model."

1. A planning system for secondary vocational education in Georgia should have two major components or subsystems - (a) a system for involving on a continuing basis appropriate persons at the local, regional and state level in reviewing the status, mission/goals, programs and funding of vocational education and making recommendations for long-term change and appropriate targets, and (b) a system for preparing an official state plan for secondary vocational education including the mandated federal planning requirements and the state long-range plan as well as facilitating the necessary management and operational planning required to translate the substantive plan into programs and operations. These two major sub-systems would overlap but would operate with basically different purposes. The first

is restricted to substantive planning with the second devoted primarily to management and operational planning. Figure 3 depicts the two major sub-systems.

2. It is recommended that the substantive planning component consist of at least two levels of activity and organization - (a) A State Secondary Vocational Education Planning Council and (b) Regional and/or Local Secondary Vocational Education Planning Councils.

The state level council should include representatives from each regional council (either APDC/RESA or State Department of Education Regional Offices), representatives of business, industry and labor (BIL), JTPA, SDE Planning/evaluation staff, school administrators association and the State Council on Vocational Education. The primary functions of this state-level planning council should be:

Review present status of secondary vocational programs.

Review state/regional labor market data, projections, trends.

Review vocational program evaluation data.

Review present state plan.

Review regional long-range plans.

Review post-secondary vocational-technical plans.

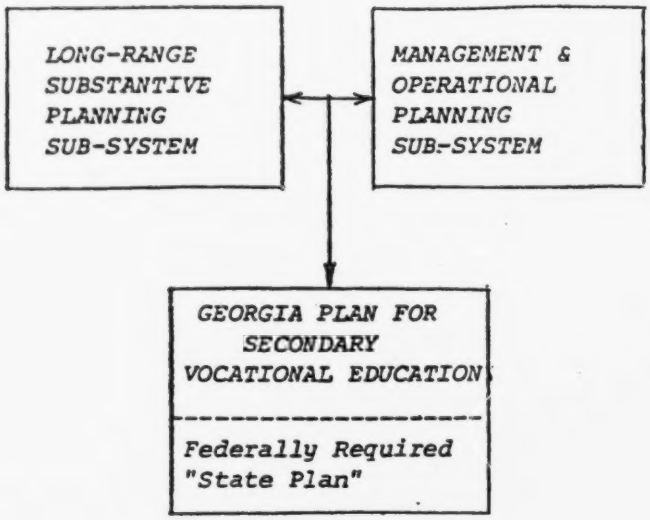
LONG-RANGE SUBSTANTIVE PLANNING SUB-SYSTEM
MANAGEMENT & OPERATIONAL PLANNING SUB-SYSTEM
GEORGIA PLAN FOR SECONDARY VOCATIONAL EDUCATION
Federally Required "State Plan"

Figure 3 - Basic Two-Component Model for State Planning

Prepare recommendations for long-range mission/goals and programmatic configuration of secondary vocational education. Recommend change in any of these as well as in data system, program design, funding, evaluation, staffing certification, etc.

The State Secondary Vocational Education Planning Council's (SVEPC) recommendations should be presented to the State Director of Vocational Education and State Planning/Evaluation Staff as well as being made available for public review.

The Regional Secondary Vocational Education Planning Councils (RVEPC) should, to the extent possible, be organized on an APDC/RESA basis. If RESA implementation provides for a vocational staff person, that person should be responsible for regional planning and coordination and should convene and chair the regional council. An alternative approach would be to organize based on regional State Department of Education Office Areas.

The tasks of the regional councils would parallel those of the state level council but with primary focus on the data, programs and problems of the particular region. The overall goal is to prepare a regional long-range plan and recommendations for change to be reviewed

by the SVEPC and SDE personnel. Regional and state data should be supplied to these councils by the MIS system. Figure 4 depicts the addition of regional planning councils to the basic system model.

Membership on the regional councils should include vocational directors from each of the local school districts that make up the planning region, one or more general school administrators, an APDC representative and representatives of business, industry and labor.

The interaction of the state level long-range plan and the regional plans should be cyclical (regional plans due on even years, state on odd numbered years).

Local long-range planning may be formalized in a similar manner but it is recommended herein that this substantive planning function be subsumed under the management/operational planning side of the model or that local long range plans be prepared on a multi-year cycle. Local input to the regional plan should be significant and the regional plan should impact on local planning but local planning will be systematized under SDE planning and evaluation policy.

It is recommended that the first cycle for long-range planning begin at the state level. There are several reasons for reversing the normal order. First,

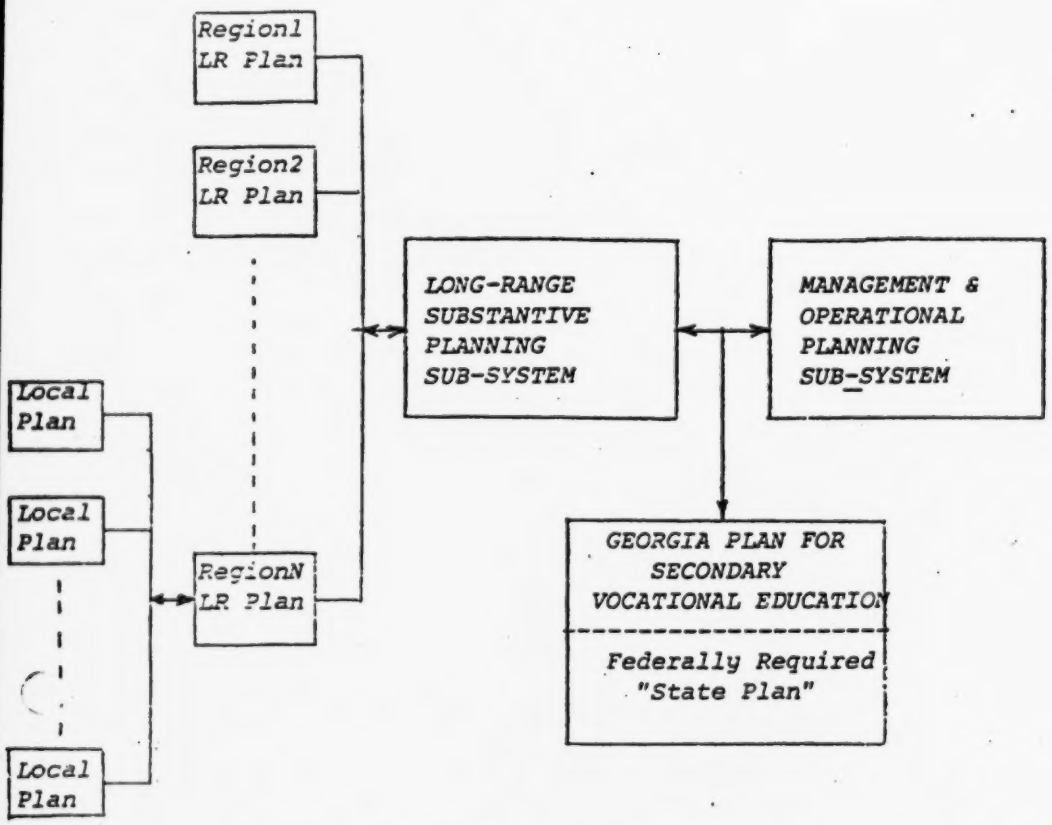

Figure 4 - Addition of Regional and Local Long-Range Planning to Basic State Long-Range Planning Model

several potential components of the system (e.g. R.E.S.A. organization) will probably not be in place prior to beginning the first cycle. The QBE act and ERC recommendations have several provisions which place statewide limitations or requirements on the substance and form of secondary vocational education. These must be implemented in the long-range plan for vocational education. An additional reason for starting at the state level is that several of the requirements for local and/or regional management/operational planning must be developed and established at the state level.

A programmatic "model" which attempts to incorporate many of the QBE and ERC requirements is presented later in this paper. If this or any other statewide programmatic model were to be adopted, such action would have to take place at the state level and be included in the state long-range plan.

Management and Operational Planning. Management and operational planning is charged with the responsibility of converting the mission and goals of the long-range plan into programs and services. General long-range programmatic priorities may be established during the substantive planning process but specific funding allocation, staff, facilities and program priorities

will be set through management planning. Figure 5 depicts the three basic types of planning.

The actual purposes and activities of management and operational planning are somewhat different at the state and local/regional levels. At the state level, the state long-range plan must be interpreted in the form of state wide programs and funding priorities in keeping with federal and state regulations and funding levels. State level activities must produce the required "state plan" and annual revisions as well as any required accountability reports. The local/regional planning effort must produce the local application (operational plan) within the guidelines and timelines established at the state level.

State level management planning tasks include the following and operate within the long-range plan"

Establish program, staff, and facilities priorities within present and projected fiscal limitations.

Allocate resources according to priorities and within state and federal legislative guidelines (interface with state plan requirements).

Establish research, staff and curriculum development priorities based on needs indicated in long-range plan, funds available and projected and current status.

pe[redacted] Planning and Nature of cisions/Judgements Supported	Typical Inputs to Process
BSTANTIVE PLANNING (Setting the Directions/Mission for Vocational Education	
Establish statewide mission Establish broad goals Determine long-range goals/ targets/ changes Determine relative curricular balance (Academic/vocational, skill/technical)	Secondary Planning Council, Business, Industry, Labor, State Council for Voc. Ed., Postsecondary, Labor Market Data, Legislation, Economic Indicators, Evaluation DAta, Local & Regional Long-range Plans SDE Staff, Teacher Educator Staff, etc.
ANAGEMENT PLANNING (Translating Goals into Priorities & Allocating Resources)	
Establish program, staff development, curriculum development, research and other priorities. Allocate resources according to priorities Plan systems and procedures	Substantive planning outputs, MIS data, output from management tools or models (e.g. microsimulation model), evaluation unit data, special advisory groups, financial data, etc.
PE. TIONAL PLANNING (Operationalizing Goals and Priorities as Programs and Services)	
Job Descriptions Certification/Staffing Curriculum Development Research Coordination/contracting Program Approvals Student & Program Evaluation "State Plan" Preparation Special Services, etc.	Output from substantive and management planning, MIS data, evaluation unit data, ad hoc advisory groups, local plans, etc.

Figure 5: Basic Tasks and Inputs to Three Types of Planning

BEST COPY AVAILABLE

Allocate funds through contract and grant mechanisms.

Prepare "state plan" using above priorities and allocations in conjunction with specified labor market, MIS and evaluation data. This process is cyclical in that long-range plans, management plan and MIS/evaluation data inform the state plan process which in turn affects both of the former processes. The formal management plan (with indications of "state plan" interface) should be circulated for reaction from relevant agencies.

State level operational planning includes planning for tasks such as the following and operates within the overall long-range and management plans:

Establish job descriptions

Establish, operate, evaluate contracts and grants

Research coordination

Program approval, applications

Student, staff and program evaluation

Special services

Operational planning involves making management and operations decisions by state staff, developing systems and procedures for operationalizing goals and priorities and services, developing the overall MIS and evaluation systems and planning other services

within the SDE mission. Operations should not direct substance but should help inform it. In other words, the practical reality of day-to-day operations should be one input to the substantive long-range planning process in order to insure a sense of reality but operational decisions must ultimately be made within the mission, goals and directions as set in the long-range planning process. Innovation and change cannot occur if current operations dictate substantive planning. Figure 6 depicts the addition of management and operational planning functions to the basic model.

Local/Regional planning.

It is doubtful that present political boundaries will permit regional planning beyond the substantive long-range planning described earlier. Management and operational planning at the regional level would require funding, staff and facility commitments across school district bounderies. It may, however, be possible to implement regional coordination of operational planning through either RESA or regional State Department of Education Office organization.

Regional vocational education plans make sense in terms of the actual service areas of schools and the labor market variance patterns. It also makes

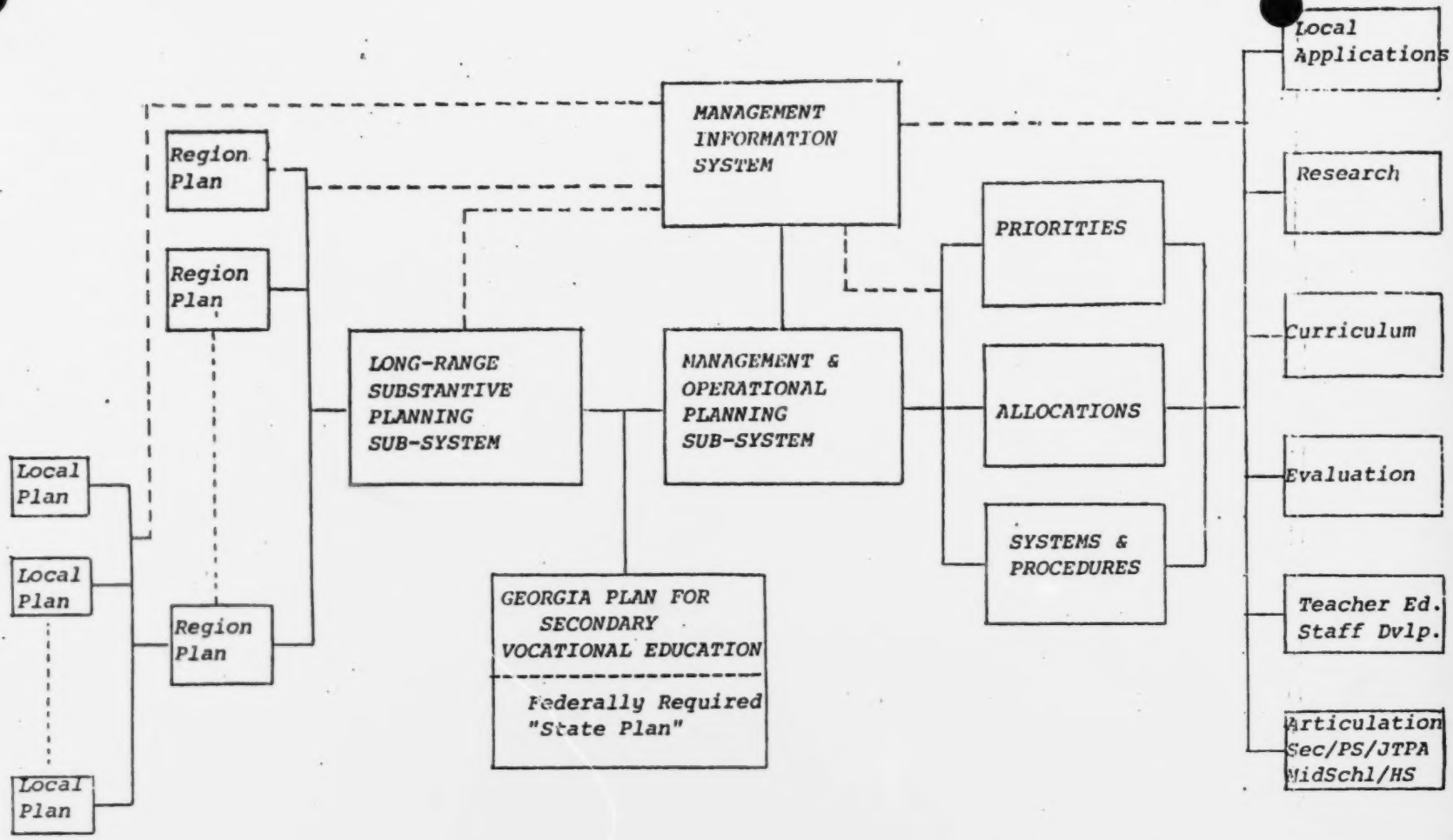

Figure 6 - Planning System with Substantive, Management and Operational Components

BEST COPY AVAILABLE

sense in terms of implementing democratic principles of advocacy and transactive planning. Personnel within a region with unique needs would have an organization and mechanism for bringing concensus on those needs, communicating their position to higher authorities and negotiating for satisfaction of the needs through orderly and defined procedures. The potential for these processes to keep vocational education at the forefront of public awareness should not be underestimated.

The continuing development of microcomputers makes it possible to operate most data collection and management functions at a regional level. For example, student and employer follow-up inventory, budget, program applications and student and staff evaluation data could all now be managed at the regional level. Relevant data could be electronically transferred to a central location for statewide analysis and reporting.

An additional benefit would relate to the concept of span of control. State level personnel under the regional organization format would deal directly with approximately 14 RESA planner/evaluator specialists or vocational education specialists as opposed to over 100 persons in similar positions at the local school district level. Staff development for planning and

evaluation procedures could be conducted through the 14 regional centers.

Local planning

Local planning has two basic functions - (1) the selection, adaptation, adoption or development of programs to meet local/regional needs and (2) the collection and/or application of data and information to the preparation of required federal, state and local applications, records and reports. As mentioned previously, long-range substantive plans may be prepared at the regional, local or both levels. Ideally, there should be local long-range plans which provide local guidance and input to regional plans. The paperwork and reporting burden faced by most local vocational personnel mandate that local planning must be based on a simplified and practical model. Local operational planning, in turn, should be systematized with required planning activities based on real needs. One rule of thumb that should be applied to all requirements for local planning is "does the planning activity have the underlying authority to impact decisions?"

Local/regional planning specifics are dependent on the degree of decision autonomy local personnel have. The recommendations that follow assume that

the state will adopt an overall programmatic model for secondary vocational education, will establish long-range mission/goals and program/student targets and will specify the range of decisions considered legitimate at the local and/or regional level.

1. It is recommended that local long-range plans be prepared on a five-year cycle to be implemented after the first cycle of state and regional long-range planning is completed. Plans should be developed using a simplified model of local/regional student/occupational needs assessment and projections.

2. The general structure of local operational planning should be based on programs/courses with the level of planning keyed to the types of decisions required. It is assumed that the kinds of programmatic decisions best made at the local level are:

a. Continue an approved, operating program as is, no substantive changes.

b. Make substantive change(es) in an operating approved program.

c. Implement a new program from the approved program list.

d. Implement (develop, adopt/adapt) an innovative program not on the approved program list.

e. Discontinue an operational approved program.

3. It is recommended that two types of programs (courses) would be eligible for implementation at the local level: (1) standardized approved programs (courses) for which there is a state approved curriculum guide, equipment and facility specifications and (2) "innovative" courses which are of local design or are adapted or adopted from another location but which are not on the approved program list. The second report of the Governor's Education Review Commission recommend that 2/3 of a school's programs be from the approved program list. Innovative courses are designed to meet unique local needs, provide instruction keyed to new technology or meet temporary needs due to changes in local industry, student enrollment, etc.

Schools should be encouraged to develop innovative courses under special funding (43%, Title II, Part B) for up to three years. A special planning/evaluation cycle should be specified as a part of the application for such courses. If innovative courses meet specific evaluation standards by the end of the three-year special funding cycle, they should be considered for addition to the state approved program list.

4. It is recommended that secondary vocational education be structured on the basis of courses which in turn can be linked together in an individual student's program to make a program. This differs from the present pattern of thinking in terms of vocational "programs" which in turn are broken down into chunks of content called "courses." It should be possible for schools to offer selected courses without necessarily offering a complete three or four year sequence of courses in a given area.

Courses should be structured and evaluated on their own merit although they may specify prerequisite competencies. A course-based structure allows greater management flexibility in that a given course may be offered only when demand justifies, not every quarter or semester. Competency-based certification should eventually enable instructors to be certified in more than one area, again providing programming flexibility, particularly in rural areas. (As an example, a teacher with primary certification in agriculture may wish to seek certification to teach one or more drafting, welding or other courses).

5. It is further recommended that either two or three course levels or types be established.

General vocational education should be available to all students regardless of post high school educational or occupational plans. To facilitate access by all students and the maximum level of programming and scheduling flexibility, the following three level system is proposed (this structure should be compatible with the recommendations of the ERC and should help provide access by students who now have increased graduation requirements.)

a. First level courses should be focused on career orientation and exploration, work habits and attitudes, employability skills and related academic skills; all in relation to a broad occupational field such as agriculture, industry/technology, or consumer-homemaking. These courses should be available to all students regardless of grade level or post-secondary educational/occupational plans.

First level courses should not limit their focus to careers at less than the baccalaureate level. They should be laboratory based and should incorporate the proven teaching methods of vocational education such as individual and group projects, co-curricular youth organizations and home and community projects. Tools, machines and materials typical of the occupations

students as an integral part of exploration and orientation experiences.

The first level course curricula should be uniform statewide with approximately 20% of content/student competencies left to local discretion in order to tailor courses to meet unique local needs. Evaluation should be primarily through administration of competency-based assessments, based on a common state item pool and on the 80% common content. First level courses are exploratory and not directed toward occupational skill development so related job or educational placement should not be an evaluative criterion.

b. Second level courses should be based on present "cluster" courses and would include career orientation/exploration, employability skills and related basic academic and technical skills related to a cluster of related occupations. Present cluster curriculum guides should be revised and updated to include related academic, career development and occupational competencies.

Second level cluster courses should be competency-based, use proven vocational instructional methods and may be restricted to occupations requiring less than the baccalaureate level of preparation. A local

school may opt to include the total spectrum of occupational levels in exploratory activities thereby encouraging students with professional level career aspirations to participate. A pre-technical option might be incorporated to meet the needs of these students. Partial joint vocational/academic credit for specific competencies should be available to completers of cluster courses.

The content/competencies included in cluster courses should be uniform statewide with approximately 20% left to local discretion. The total vocational program may be tailored to meet unique local needs both through program selection and through local determination of up to 20% of the content of first and second level courses.

Evaluation of second level courses should be through standardized assessments based on the 80% common content. Related job or educational placement should be only a minor criterion, if at all. Second level courses should be open to any student who has satisfactorily completed the related first level course regardless of post-school occupational or educational aspirations.

Second level courses should include basic compe-

tencies related to a number of closely related occupations. Job entry for a number of these occupations may be directly from high school but there is a significant trend toward the requirement of post-secondary specialized preparation for many. Course guides for second level courses should be developed to present "skills" and "pre-technical" options. Although separate classes may be desirable in larger schools, it is anticipated that both options could be available in a given class with the individual student selection based on ability, interests and career plans.

Students who plan to pursue post-secondary preparation in either the college or technical school setting should find the pre-technical option challenging and of significant value. The pre-tech option should provide application of the more advanced academic skills these students are acquiring in their regular program.

c. Third level courses should be "capstone" courses, open only to seniors with credit in specified first and second level courses. Capstone courses should focus on identified competencies relevant to entry into occupations in the local or regional labor market and/or specified post-secondary vocational or technical programs in area schools, junior colleges,

proprietary schools, colleges/universities or apprenticeship.

Third level courses to be offered by a given school should be selected and justified on the basis of local planning procedures which would include both student and labor market needs analyses. Evaluation of these courses should include not only student competency assessment but also broadly related occupational or educational placement for completers.

Third level courses should emphasize preparation over exploration and would normally only be offered in occupational areas for which related cluster programs are available in the school. They should be designed to prepare the student for direct job entry, placement in a post-secondary technical program or both. In those occupational areas where a significant distinction can be made between the content and skill requirements or these two options, both may be provided concurrently in the same laboratory. It is anticipated, however, that some schools may, as a result of student and job market needs assessments, decide to focus a third level course on one or the other option. Third level courses may take the form of an advanced cluster course (with fewer occupational areas) or a single occupational area course.

As recommended in the ERC second report, third level instruction may be offered through cooperative education plans with local businesses and industry. Another option, where enrollment does not warrant a third level course in each school, would be a cooperative agreement between two or more high schools in a single district or across district lines.

6. It is recommended that the nature and scope of local planning (beyond the requirement for long-range substantive plans and normal application and reporting procedures) be keyed to a combination of factors including type of decision, type and level of course and evaluation results. The following basic guidelines are suggested:

a. Operational Approved Programs: No specific planning requirements if program continues to meet evaluation criteria (student competence, job or educational placement rates, costs, staffing, facilities, etc.). If a program fails to meet criteria for a specified time period, program improvement cycle should be implemented including special planning and evaluation requirements.

(See ERC recommendations for "overproducing" programs).

b. Modify Approved Operational Programs: Implement "short" planning cycle to justify proposed significant modifications. Limited additional evaluation requirements should be considered.

c. Implement New Approved Program: Complete program planning cycle as part of application. Demonstrate student/community/labor market demand, administrative support, facilities, etc.

d. Implement Innovative Program (Three-year program funding cycle): This should involve application for special funding for programs of local design or adaptation/adoption of programs not on approved list. Implement special planning and evaluation cycle.

e. Discontinue Operational Program: Demonstrate compliance with established "sunset" procedures.

7. It is recommended that the Vocational Division of the State Department of Education implement a systematic program of curriculum development/revision based on the above course model or other statewide model. Development of competency-based student evaluation measures (preferably computer-based) should be an integral part of curriculum development/revision efforts.

8. It is recommended that the Vocational Division

of the State Department of Education establish specific course evaluation criteria. If a multi-level structure is implemented, it is suggested that related educational/occupational placement be a major evaluation criterion only for senior level "capstone" courses. It may be a minor criterion for middle level courses but should not be used as an evaluation criterion for first level exploratory courses. Other criteria to be considered for all courses include enrollment, facilities, staff qualifications, local effort and student performance scores. Student competence (controlling statistically for pre-course aptitude and competence) should be a major evaluation component for all courses.

9. It is recommended that a local planning "kit" be developed based on the general model and procedures of the Hamlin/Muth model developed at Michigan State University (1978). Specific procedures and forms for each level of planning should be included. Instructions and forms for preparing the long-range plan should be included in a separate publication.

Executive Summary

The present document began with a charge to develop a planning "model" for vocational education in Georgia. During the several months that transpired during the project a number of events took place that have had and will continue to have significant impact on both secondary and postsecondary vocational education in Georgia.

At the national level, the Carl D. Perkins Vocational Education Act was passed. This act dramatically changed the proportion of federal vocational education funds that is earmarked for special populations, curtailed the use of federal funds for program maintenance, revised the role and composition of the state-level lay advisory council and changed the timelines for the planning cycle. The significant reduction in time available for production of the first multi-year state plan under the new act eliminated any opportunity to implement new procedures during the first planning cycle.

At the state level there was a flurry of activity. The Governor's Education Review Commission (ERC) brought forth a number of recommendations which, when implemented will change substantially the nature and

substance of secondary vocational education in Georgia - changes that should be guided by the planning process. A separate board was created to govern post-secondary vocational-technical education with a corresponding division of planning authority and responsibility taking place mid-year. A new comprehensive education act was signed into law during this same period - an act with too many substantive changes to even list here. Apparently conflicting calls for greater sensitivity to local labor markets yet greater statewide program uniformity were issued along with demands for more effective career development services accompanied by restrictions on middle school prevocational programs and cutbacks in secondary elective hours. Secondary vocational education in particular appears to be caught in a crossfire of escalating expectations and reduced fiscal and time resources.

The above gives some indication of the rate of change in education but does not begin to indicate change taking place in the work world. Vocational education operates as a bridge between formal education and the work world and thus must be sensitive to both. With rapid change taking place in both sectors, vocational education must change or face rapidly diminishing effectiveness and public support.

Such change may occur without planning as a result of external pressures - a position in which secondary vocational education nationwide now finds itself. It is not at all clear, however, that externally mandated change capitalizes on the available experience, knowledge and expertise that would help maintain a balanced yet contemporary educational program. History in fact indicates that external mandates typically result in pendulum-like swings between excesses in academism and vocationalism. What is called for is a planning system that can eventually balance external pressures and internal resistance while providing guidance for informed change.

The present effort was purposively theoretical at the outset. For several years models for planning vocational education have been researched, developed, piloted, occasionally implemented and generally abandoned. Those that have not been abandoned have been reduced from their original optimistic comprehensive planning mission to more or less routine mechanisms for preparing compliance-oriented state plans.

A preliminary literature review indicated almost total dependence on highly centralized rational-comprehensive planning models in vocational education;

approaches which focus on management and allocation of resources but fail to provide guidance for change though linking vocational education with other areas of education or the work world. Such models focus on rationalizing decision making within the boundaries of given goals/objectives and resources. It has been observed that "vocational educators have been content (or felt constrained) to seek ways of making practice better within the goal structure imposed by the federal government; the result has been marginal improvement rather than a questioning of the whole structure and direction of vocational education" (Copa & Moss, 1983, p. 165).

This dependence on rational synoptic approaches to planning has often led to disappointment when complex but rational plans are not implemented because they rest on several assumptions that are often not tenable in education. Namely, they assume adequate centralized power to assure implementation, agreement on values, understanding of critical variables and their relationships and belief that there is a common public good, and the assumption that there is adequate time and resources for planning. Perhaps the most dubious of assumptions made are that incumbants in

the present system want to change and that there are incentives rather than disincentives to plan.

Education in general and vocational education in particular has had a tendency to attribute the failure of comprehensive planning models to a lack of adequate and reliable data - leading to repeated calls for better data. This preoccupation with data quality and quantity has diverted attention from the appropriateness of the actual planning models themselves. It is the position of this paper that the rational comprehensive approach to planning is inadequate in-and-of-itslf for state level planning of vocational education in Georgia

The primary focus of the present effort was thus to develop an approach for continuous planning and review of the nature and substance of secondary vocational education that would complement the extant management and planning procedures. A secondary function was to propose a modified programmatic model for vocational education that would incorporate contemporary thinking about the mission of secondary vocational education and implement new federal and state legislative requirements. It was felt that piecemeal implementation of these new mandates will result in further

fragmentation and diffusion of the primary purposes of secondary vocational programs.

The suggested programmatic model views secondary vocational education as having two primary functions: (1) the provision of "general" vocational competencies such as career exploration, work habits and attitudes, employability skills and application of academic skills in a vocational context to most if not all secondary students and (2) the provision of "specialized" vocational competencies for selected students to prepare them for direct occupational entry or placement in post-secondary vocational or technical programs.

The paper concludes with a series of recommendations in the areas of data system, planning, curriculum and evaluation and the secondary program structure. A summary of those recommendations follows.

A. Data System

1. The Program Development and Support Services Office of Vocational Education should be represented in the development of the new statewide information system to be provided under the Quality Basic Education Act (QBE).

2. A special committee should be formed to review the present vocational education data set, procedures

and follow-up system and to make recommendations for change. Several specific suggestions for modifications of this system are presented.

3. The present student and employer follow-up system should be redesigned to improve return rates and provide data that are useful to the state and localities for evaluation purposes. Three possible approaches are suggested.

4. Conversion to the NCES "Classification of Instructional Programs" numbering system should be made during the current planning cycle.

B. Planning

1. A basic two-component planning model for secondary vocational education is proposed: (1) a sub-system and set of procedures for continuing development of substantive long-range plans at the state and regional and/or local levels and (2) a sub-system for management and operational planning based on current procedures.

The primary function of the substantive planning procedures is the continuing revision of local/regional and state level long range plans for secondary vocational education with systematic input from general and vocational administrators as well as representa-

tives of business, industry and labor, the State Council on Vocational Education, post-secondary vocational technical education and Department of Labor (JTPA) representatives.

The primary functions of the management and operational planning system are the translation of long-range plans into programmatic, research, curriculum. evaluation, personnel development/teacher education and articulation priorities, allocation of funds and the planning of operational systems including preparation of the federally required state plan.

2. A regional planning network is recommended that would be based on either the R.E.S.A. system provided under QBE or regional offices of the State Department of Education. The establishment of a vocational education planning and evaluation position in each of the regions was seen as the ideal approach to implementation of regional planning.

3. It was recommended that local planning serve two primary functions: (1) the selection, adaptation// adoption or development of programs to meet local and regional needs and (2) the collection and application of information to the preparation of required local, state and federal applications, records and reports.

A local planning structure was suggested that includes a five-year long-range planning cycle, two basic types of courses and five levels of local planning involvement. The level of local planning required under this structure is dependent on the type of decision to be made, type and level of course and evaluation data.

4. It was recommended that a local planning "kit" be developed based generally on the model as proposed by Hamlin and Muth of Michigan State University but keyed to the five suggested levels of local planning.

C. Curriculum and Evaluation

1. It was recommended that the Vocational Division of the State Department of Education implement a systematic program of curriculum development and revision based on the proposed or other statewide program model. Development of competency-based student assessment measures (preferably computer-managed) should be an integral part of the curriculum effort. New curriculum guides, where appropriate, should include skill and pre-technical options.

2. It was recommended that specific evaluation criteria be established for each approved course. Evaluation areas might include enrollment, facilities, staff qualifications, local effort, occupational and

student performance scores. It was suggested that student competence (statistically controlling for pre-course aptitude and competence) should be a criterion for all courses while related educational/occupational placement would be most relevant to senior level capstone courses only. Unsatisfactory evaluation results for a specified period of time should automatically force implementation of a special planning/evaluation cycle for any course.

D. Program Model

1. It was recommended that secondary vocational education in Georgia be structured on the basis of courses which in turn can be linked together to form a program within individual students' courses of study. This structure (as opposed to structuring around total programs made up of courses) should provide greater management flexibility at the local level. This flexibility would be further enhanced by a certification structure that would allow vocational personnel to achieve "add-on" course certification.

2. It was recommended that special provisions be made to encourage, within the local planning and evaluation cycle and through special funding incentives, development and/or adoption/adaptation of innovative

vocational programs designed to meet local student or labor market needs. Under the new federal legislation, such programs could be funded for up to three years. With appropriate evaluation procedures, such courses could serve as the source of field-tested ideas for the continuing positive evolution of secondary vocational education in Georgia.

3. It was recommended that the statewide programmatic model be structured around three levels of courses arranged on a continuum of occupational specificity from general career orientation/exploration through present cluster course organization to occupationally specific preparation programs. Occupationally specific or "capstone" courses would be limited to senior level enrollment and would require justification based on local/regional student and labor market demand and related educational/occupational placement rates.

First and second level course curricula should be uniform statewide with approximately 20 percent of the content to be locally determined. Competency-based student assessments should also be standardized and used in the overall program evaluation. When appropriate, both skill and pre-technical options should be available. First and second level courses should

be available to any student regardless of post-high school educational or occupational aspirations. First level courses should not limit occupational coverage to sub-professional careers with such a limitation optional for second level courses.

Third level courses were recommended to provide each community the opportunity to have specialized vocational preparation at the secondary level in a restricted number of occupational areas. Third level courses would need to be justified on the basis of student and employer demand data as well as related educational/occupational placement. Most third level courses would be focused on development of specific job-entry skills although a pre-technical option should be available if appropriate.

The above recommendations constitute a framework that should facilitate gradual, long-range and continuing change in secondary vocational education in Georgia. Only the general procedures are intended to be prescriptive, not the outcomes. The measure of the effectiveness of a planning model will be the extent to which it promotes the continuing evolution of vocational programs and services to meet the constantly changing needs of students and the workplace.

References

Adams, C. A., & Mecca, T. V. (1979). Future events impacting occupational education: A report on the Octoc Study. (ERIC Document Reproduction Service # ED 182 492).

Adams, C. A., & Mecca, T. V. (1979). Future events impacting occupational education: A report on the Octoc Delphi Study: Vol. 1. (ERIC Document Reproduction Service # 182 491).

Administrator's guide to vocational education. Sharpen Your Skills. (1983). Corvallis, OR., Oregon State University. (ERIC Document Reproduction Service #ED 236 344).

Assessment of the impact vocational education can have on improving worker productivity. Long-range action plan. Urbana, IL. Illinois University. Department of Vocational and Technical Education (1981). (ERIC Document Reproduction Service # ED 204 513).

Atteberry, J. M., & Others (1977). Improving Vocational education planning: More myth than reality? Final Report. Comunbia, MO. Missouri University, Department of Practical Arts and Vocational Technical Education. (ERIC Document Reproduction Service # ED 140 027).

Attebury, J. W. (1979). The application of mathematical modeling to vocational education planning. Journal of Vocational Education Research, 4 (1), 43-64.

Aton, C. L. (1982). An advanced technology study for post-secondary area vocational technical schools. Final report., Atlanta, GA. Georgia Institute of Technology. (ERIC Document Reproduction Service #ED 223 789).

Baron, H. M., & Hymer, B. (1971). "The Dynamics of a dual labor market" in Problems in Public Economy: An Urban Prospective, David M Gordon (Director). Lexington: D. C. Heath and Company.

Barton, P. E. (1981). Vocation and Education Policy: A Federal Perspective. North Carolina, North Carolina State University, p. 80-0099.

Beaulieu, R. A., & Erickson, S. R. (1977). An information network and simulation model for vocational education. Final Report. Rhode Island Model II, Vol. 1. Providence, RI. State Department of Education. (ERIC Document Reproduction Service #138 820).

Becker, G. S. (1975). Human Capital. (National Bureau of Economic Research) (2nd ed.). New York: Columbia University Paper.

Beebout, H. (1977). Microsimulation as a policy tool: The Math Model. Mathematics Policy Research, Policy Analysis Series No. 14. Washington, D.C.

Bennett, A., & Others (1981). A comprehensive study of the relationship between academic requirements in vocational education and the abilities of students in various vocational education programs. Final Report. Chicago, IL. Roosevelt University, College of Education. (ERIC Document Reproduction Service # 212 845).

Benson, C. S. (1981). The future of vocational education: Projections and observations for 1990. NIE # P-81-0065.

Bregman, R. (1979). A model for planning vocational education at the local level. Information Series No. 153. Columbus, OH., Ohio State University. National Center for Research in Vocational Education. (ERIC Document Reproduction Service # ED 173 543).

Campbell, D. F., (1982). Post-secondary occupational education: National trends, issues, and potential implications for Texas public community/junior colleges. (ERIC Document Reproduction Service # ED 214 591).

Cohn, E., & Morgan, J. M. (1978). Improving resource allocation within school districts: A goal programming approach. Journal of Educational Finance. 4: 89-104.

Cohn, E. (1979). The Economics of Education. Cambridge, MA.: Bullinger Publishing Co.

Cohen, M. O., March, J. G., & Olsen, J. P. (1972). A garbage can model of organizational choice. Administrative Science Quarterly, 17 (1): 1-25.

A comprehensive needs assessment for the program of vocational education in Georgia. Exec. Summary (1982). Pittsburg, PA. Associated Educational Consultants, Inc. (ERIC Document Reproduction Service # ED 223 781).

Conroy, W. G. Jr., (Ed.) (1974). Computer assisted planning for education: A prototype. Journal of Research and Development in Education. 7 (2).

BEST COPY AVAILABLE

Copa, G. H., (1982). Critical issues in identifying training-related jobs for vocational education programs. (ERIC Document Reproduction Service # ED 217 143).

Copa, G. H., & Others (1976). Critical issues in planning vocational education: A series of simulation exercises. Minneapolis, MN., Minnesota Research Coordinating Unit for Vocational Education in Minneapolis. (ERIC Document Reproduction Service # 190 853).

Copa, G. H., & Salem, M. N. (1980). Vocational Education and employment: Building a basis for planning in Minnesota. Minneapolis, MN. Minnesota University Research and Development Center for Vocational Education. (ERIC Document Reproduction Service ED 197 056).

Copa, G. H., & School, S. (1983). Developing vocational educational indicators: Some steps in moving from selection to use. St. Paul, MN. Minnesota University, Minnesota Research and Development Center for Vocational Education. (ERIC Document Reproduction Service # ED 235 385).

Copa, G. H., (1976). Policy affecting vocational education. Educational Forum: 40 2, 169-178.

Copa, G. H. & Geigle, E. K. (1979). Needed skills for State vocational education planning. Journal of Vocational Education Research. 4, 1, 13-41.

Copa, G. H., & Geigle, E. K. (1976). Educational planning in the labor market. Minn. MN. Minnesota research coordinating unit for vocational education, Minnesota University, Department of Vocational and Technical Education. (ERIC Document Reproduction Service # ED 138 713).

Copa, G. H., & Moss, J. Jr., (Eds.). (1983). Planning and vocational education. New York, Gregg Division, McGraw-Hill Book Compnay.

Copa, G. H., (1981). Towards a strategy for planning vocational education. Minneapolis, MN. Department of Vocational and Technical Education. (ERIC Document Reproduction Service # ED 209 486).

The development and implementation of a management and information system for long-range planning of vocational education programs at the local level. Final Report. (1977). East Lansing, MI. Michigan State University. Proaction Inst. (ERIC Document Reproduction Service # ED 143 843).

BEST COPY AVAILABLE

Doeringer, P. B., & Piore, M. G. (1971). Internal labor markets and manpower analysis. Lexington: D. C. Heath and Compnay.

Drewes, D. W., & Bice, G. R. (1981). Occupational information and vocational education: A concept paper. Durham, N.C., Research Triangle Institute. (ERIC Document Reproduction Service # ED 231 992).

Dyrenfurth, M. J., & Elias, J. E. (1981). Vocational planning guide. Jefferson City, Mo. State Department of Elementary and Secondary Education, Division of Career and Adult Education. (ERIC Document Reproduction Service # ED 226 224).

Eckaus, R. S. (1973). Estimating returns to education, A disagregated approach. Berkeley, CA.: The Carnegie Foundation for the Advancement of Teaching.

Educational Planning in the labor market: Linking occupational education to regional economic development. Volume 1. (1976). Evanston, IL.: Northwestern University, Graduate School of Management. (ERIC Document Reproduction Service # ED 138 728).

Eide, K. (1969). The planning process. Educational planning in the United States. Edited by Elam, S., & Swanson, G. I., Itaka, IL.: Peacock Publishers.

Etzioni, A. (1967). A "Third approach to decision making." Public Administrative Review. 27: 387-391.

Etzioni, A. (1973). Mixed Scanning. In A. Faludi, (Ed.), A reader in planning theory. New York: Pergamon Press.

Faludi, A. (1973). A reader in planning theory. New York: Pergamon Press.

Fishkind, H. H., & Others (1976). Methodology for determining needs for vocational and technical education in urban areas in Florida. Gainesville, FL. Florida University. College of Business Administration. (ERIC Document Reproduction Service # ED 134 720).

Freeman, R. B. (1975). The over educated American. New York. The Academic Press.

Freeman, R. B. (1976). The declining economic value of higher education and the American school system. Cambridge, MA. Aspen Institute program in Education for changing society.

Friedman, J. F. (1963). Retracking America: A theory of transactive planning. Garden City, N.Y. Anchor Press/Doubleday.

Friedman, J., & Hudson, B. (1974). Knowledge and Action: A guide to planning theory. Journal of the American Institute of Planning, 4- (1) 3-16.

Goldstein, H. (1980). Future labor market demand and vocational education. Washington, D.C. (DHEW) (ERIC Document Reproduction Service # 211 737).

Goldstein, H. (1981). Occupational forcasts and vocational education. Vocational Education, 56 (1) 51-53.

Grabow, S., & Heskin, A. (1973). Foundations for a radical concept of planning. Journal of the American Institute of Planners. 39 (2): 106-114.

Greenberger, M., Vrenson, M., & Brian L. (1976). Models in the policy process. New York:Russell Sage Foundation.

Groff, W. H., (1983). Strategic planning and management for vocational-technical education on the community college level. (ERIC Document Reproduction Service # ED 237 129).

Grubb, W. N., (1983). Occupational demand and the rise of postsecondary vocational education. Stanford, CA. Stanford University, Institute for Research on Educational Finance and Governance. ERIC Document Reproduction Service # 235 566).

Guidelines for obtaining and using data in vocational program planning. Eugene, Oregon, Lane Community College, Department of Education, Salem. Career and Vocational Education Section, Portland Public Schools. (ERIC Document Reproduction Service # 147 520).

Halcromb, V., (1974). A profile of vocational educators: Preliminary report. Sacramento, California: State Department of Education, Division of Vocational Education, California University, Los Angeles, Division of Vocational Education. (ERIC Document Reproduction Service # 126 284).

Hamlin, R. E., & Others, (1977). A policy information system for vocational education. East Lansing, Michigan, Michigan State University, Proaction Institute. (ERIC Document Reproduction Service # 143 834).

Hamlin, R. E., & Others, (1977). Planning for vocational education. East Lansing, Michigan, Michigan State University, Proaction Institute. (ERIC Document Reproduction Service # 143 835).

Hamlin, R. E., & Others, (1977). Policy information system computer program. East Lansing, Michigan, Michigan State University, Proaction Institute. (ERIC Document Reproduction Service # ED 143 839).

Hamlin, R. E., & Others, (1977). Preliminary long-range planning model. Michigan State University, East Lansing Michigan, Proaction Institute. (ERIC Document Reproduction Service # ED 143 836).

Hielbroner, R. L., & Thurow, L. C. (1982). Economics explained. Englewood Cliffs, New Jersey. Prentice-Hall, Inc.

Illinois multifarious, student-based management-oriented information project. Final Report, (1976). Springfield, Illinois, State Office of Education, Division of Adult Vocational and Technical Education. (ERIC Document Reproduction Service # ED 147 548).

Koontz, H. (1963). The rationale for planning in Management organization and planning by D. M Bowman and F. M Fillerman (EdS). New York, McGraw-Hill.

Kuhn, T. (1962). The structure of scientific revolution. Chicago, University of Chicago Press.

Lamar, C. S. (Ed.) (1978). Comprehensive planning for vocational education, a guide for administration. 8th yearbook of the American Vocational Association, Arlington, Virginia. The American Vocational Association.

Lewis, M. V., & Russell, J. F. (1980). Trends, events and issues likely to influence vocational education in the 1980's. Columbus, Ohio, Ohio State University, Columbus National Center for Research in Vocatioanl Education. (ERIC Document Reproduction Service # ED 195 825).

Lindblom, C. E. (1959). The Science of "Muddling Through." Public Administration Review. 19 79-88.

Matching occupational classifications to vocational education program codes, (1975). U. S. Department of Labor, Bureau of Labor Statistics. TMN SUP. 3.

Maurice, C., & Starr, H. (1979). Coordination between state and local agencies in planning vocational education. Columbus, Ohio, Ohio State University, National Center for Research in Vocational Education. (ERIC Document Reproduction Service # 178 761).

Merz, H., & Others, (1981). Improving the technology of local level vocational education planning. Context, Realities, and Research and Development Needs. Columbus, Ohio, Ohio State University. National Center for Research in Vocational Education. (ERIC Document Reproduction Service # 199 392).

Miller, W. R., & Worthington, R. M. (1982). How one state planned for the future of vocational education. Journal of Epsilon Pi Tau. 8: 1, p. 53-56.

Modeling a program planning process for vocational education. (1981). Lincoln, Nebraska Southeast Community College. (ERIC Document Reproduction Service # ED 209 521).

Moss, J. Jr., & Copa, G. H. (1982). Evaluation, inquiry and local planning in federal vocational legislation. Occasional paper #1. (ERIC Document Reproduction Service # ED 227 357).

Mundt, J. C. (1975). Planning for post-secondary education: Which state agendy chould recieve federal occupational funds. Community College Review. 3: 1, 31-41.

Naylor, T. H., Balimtily, J. G., Burdick, D. S., & Chu, Kong. (1976). Computer simulation Techniques. New York, John Wiley.

Newton, F. E., * McDowell, S. (1981). Planning for progress. Evaluating and planning for vocational education in Oregon. Portland, Oregon, Multnomah Co., Ed., Service Dis., Portland Oregon. (ERIC Document Reproduction Service # ED 209 461).

Occupational education master plan, 1981-1986. (1981). Phoenix, Arizone, Maricopa County Community College. (ERIC Document Reproduction Service # ED 210 074).

Orcutt, G. H. (1961). Microanalysis of socioeconomic systems, a simulation study. New York: Harper and Roc Publishing, Inc.

Orcutt, G. H., Caldwell, S., & Wertheimer, R. (1976). Policy exploration through microanalytic simulation. Washington, D. C.: The Urban Institute.

Orcutt, G. H., Greenberger, M., Korbel, T., & Riulin, A. (1961). Microanalysis and socioeconomic systems: A simulation study. New York: Harper and Roc Publishing, Inc.

O'Reilly, P. A. (1975). The state planning process In vocational education: Project baseline supplemental report. Flagstaff, Arizone: Northern Arizona University. (ERIC Document Reproduction Service # ED 119 027).

Parnes, H. S. A conceptual framework for human resource policy: Implications for vocational education research and development. Columbus, Ohio: Ohio State . (ERIC Document Reproduction Service # ED 124 686).

Parr, C., (1976). Recommended requirements for a comprehensive management information system for occupational education. Final report: Austin, Texas education agency, Department of Occupational Education and Technology. (ERIC Document Reproduction Service # ED 138 756).

Parsons, M. E. (1984). New technology and the human response: The issues facing vocational education in the 1980's. (ERIC Document Reproduction Service # ED 239 671).

Peattie, L. (1968). Reflections on advocacy planning. Journal of the American Institute of Planners. 34 (2): 80-88.

Pershing, J. A., & Schwandt, F. A. (1980). Rational planning and the case pf cost-effectiveness analysis for vocational education. Journal of Vocational Education Report. (5), No. 3, pp. 1014.

BEST COPY AVAILABLE

A plan for operating post-secondary vocational-technical education during the 1980's. Executive Summary (1981). Minneapolis, Minnesota, Educational Management Services, Inc. (ERIC Document Reproduction Service # ED 204 588).

Planning for progress. Evaluating and planning for vocational education in Oregon. (1983). Portland, Oregon Multnomah Co. Education Service District. (ERIC Document Reproduction Service # ED 236 382).

Planning Resource. (1981). Honolulu, Hawaii, Hawaii University, Office of the State Director for Vocational Education. (ERIC Document Reproduction Service # ED 207 653).

Pratzner, F. C., & Russell, J. F. (1983). The roles and functions of vocational education: Some current perspectives. Columbus, Ohio. Ohio State University. National Center for Research in Vocational Education. (ERIC Document Reproduction Service # 227 308).

Pucinski, R. (1978). Policy analysis and suggested changes in vocational education. Stanford, California, Stanford University. Center for Educational Research. (ERIC Document Reproduction Service # ED 212 776).

Ratajczak, Rosalynda. (1978). State planning for vocational education: An evaluation of the uses of manpower data in determining occupational supply and demand in the Southeastern United States. Atlanta, Georgia. (ERIC Document Reproduction Service # 189 308).

Rosenthal, N. H., & Pilot, M. (1983). National occupational projections for vocational education planning. Information Series No. 252. Columbus, Ohio. Ohio State University, National Center for Research in Vocational Education. (ERIC Document Reproduction Service # ED 229 577).

Ruff, R. D., & Others. (1981). An examination of non-occupationally specific outcomes of secondary vocational education. Columbus, Ohio. Ohio State University, National Center for Research in Vocational Education. (ERIC Document Reproduction Service # ED 215 152).

Ruff, R. D. (1981). A Study of the future of vocational education: Implications for local planning. (ERIC Document Reproduction Service # ED 199 563).

Ruff, R., & Others. (1981). Vocational education: A look into the future. Research and development No. 207. Columbus, Ohio: Ohio State University, National Center for Research in Vocational Education. (ERIC Document Reproduction Service # ED 201 792).

Russell, J. F. (1981). Identifying new and emerging occupations for vocational/technical education planning purposes. Columbus, Ohio. Ohio State University, National Center for Research in Vocational Education. (ERIC Document Reproduction Service # ED 200 755).

Schroeder, W. E. (1976). Technical and vocational education planning, an international annotated bibliography of ERIC documents. (Bibliography Series No. 35). Columbus, Ohio. Ohio State University, Center for Vocational Education. (ERIC Document Reproduction Service # ED 128 652).

Schultz, T. W. (1960). Capital formation by education. Journal of Political Economy, (67) 571-583,

Schultz, T. W. (1965). Education and economic growth. In H. S. Rickey (Ed.). Social forces influencing American education. National Society for the Study of Education.

BEST COPY AVAILABLE

BEST COPY AVAILABLE

Secondary vocational education program review/planning handbook. (1981). East Lansing, Michigan. Michigan State University, Vocational Education Resource Center. (ERIC Document Reproduction Service # ED 212 834).

Seccurro, W. B. (1977). Vocational education - meeting today's demands. NASSP Bulletin 61: 406, 100 102.

Showalter, J. (1975). Using labor market forecasting for vocational education planning. Columbus, Ohio. Ohio State Department of Education, Division of Vocational Education. (ERIC Document Reproduction Service # 145 147).

Simmons, J. (1974). Education, poverty and development. Working Paper # 188. Washington D.C. World Bank.

Sommers, D. Empirical evidence on occupational mobility. Information series 193. National Center for Research in Vocational Education. The Ohio State University, Columbia, Ohio.

South Carolina office of vocational education needs assessment handbook. Columbia, South Carolina: State Department of Education, Office of Vocational Education. (ERIC Document Reproduction Service # ED 200 802).

Squires, G. D. (1979). Education and jobs - the imbalancing of the social machinery. New Brunswick, New Jersey: Transaction books.

Starr, H. (1977). Management information systems for vocational education: A national study. Columbus, Ohio: The National Center for Research in Vocational Education.

Starr, H., & Others. (1978). Developing state plans for vocational education. Research and development series. The National Center for Research in Vocational Education. (ERIC Document Reproduction Service # ED 164 798).

Starr, H., & Others. (1979). Selecting, analyzing, and displaying planning information. Research and development series 164. Columbus, Ohio. Ohio State University, Center for Research in Vocational Education. (ERIC Document Reproduction Service # ED 181 325).

Staff, H., & Others. (1980). Coordination in vocational education planning - barriers and facilitators. Research and Development Series No. 187. Columbus, Ohio: Ohio State University, National Center for Research in Vocational Education. (ERIC Document Reproduction Service # ED 187 927).

BEST COPY AVAILABLE

Starr, H., & Others. (1981). Conditions affecting vocational education planning. Research and Development series No. 204. Columbus, Ohio. Ohio State University, Center for Research in Vocational Education. (ERIC Document Reproduction Service # ED 201 790).

Starr, H., & Others. (1982). Using labor market information in vocational planning. Columbus, Ohio. Ohio State University, National Center for Research in Vocational Education. (ERIC Document Reproduction Service # ED 216 209).

Steenhausen, N. E., (Ed.) & Others. (1981). Implementation of a regional communications and planning model. Project report. Information Series No. 14. Bloomington, Indiana. Indiana University, Vocational Education Services. (ERIC Document Reproduction Service # ED 210 448).

Stevens, D. W. (1976). Employment projections for planning vocational-technical education curricula: Mission Impossible?

Stone, S. D. (1982). Research: Oklahomans looking ahead. Stillwater, Oklahoma. Oklahoma State Department of Vocational and Technical Education. (ERIC Document Reproduction Service # ED 226 215).

BEST COPY AVAILABLE

Thurow, L. C. (1972). "Federation and Economic Equality," Public Interest.

Thurow, L. C. (19775). Generating Inequality, New York, Basil Books, Inc.

Thurow, L. & Lucas, F. B., (1972). "The American Distribution of Income: A structural Problem." Joint Economic Committee.

Wichowski, C., (1981). Curriculum needs assessment: A model for trade and industrial education decision-making. (ERIC Document Reproduction Service # ED 226 169).

Woodruff, A., & Others (1976). State and local responsibilities for planning occupational education. A Study of the effect of alternative allocations of responsibilities on the process of planning. A report. New York, N. Y.: Educational Facilities Labs. (ERIC Document Reproduction Service No. ED 133 479).

Worthington, R. M., (1981). Re-thinking education and work in the United States for the 1980's. Washington, D. C., Office of Vocational and Adult Education. (ERIC Document Reproduction Service # ED 209 559).

Young., & Co., (1976). Planning model for vocational education. Portland, Oregon. (ERIC Document Reproduction Service # ED 176 008).